Potential/Alternate Non-Standard Cancer Therapies

A Compendium

JAN 2026 v15.2

Contents

Preface

Necessarily, mention must be made that this document and the associated discussions concerning the content of this subject and the contents of this document are **not** to be construed as medical advice or held out as suggesting medical cures for cancer. The author of this document is **not** a doctor. The included (and often quoted) material has been copied (often verbatim) from multiple sources both online and offline and is either directly from the National Institutes of Health (NIH) or anecdotal. As this is a living document, I will be applying applicable sourcing and footnotes as time progresses. This IS a living document.

Personal Note

In 2008, my wife Patty was discovered (after having suspicious severe pain and odd weight gain) to have a mass in her lower abdomen (via CTScan). She was rushed to Akron for surgery the very same day with the surgeon there removed a mass that was approximately 10 pounds, slightly smaller than a volleyball. This mass growth was sudden… mere weeks.

Biopsy showed this to be an endometrial stromal sarcoma. A uterine cancer. A very aggressive, usually 100% fatal cancer and certain to return after surgery. It was suggested she get her affairs in order and that maybe she had 4-6 months at best.

She had already undergone surgery, and then chemotherapy, and then radiation so horrific that it literally fried part of her small intestines and bladder (causing issues for

the rest of her life). My goal, aside from her support and care, was to find a solution. This just couldn't be all we had…!

Surrender is not a word in our vocabularies, even when things are "certain" or in the face of "authority". While my wife was not in the frame of mind to find answers, I was. Years earlier I made a promise to her and if I have nothing else in this world, I honor my word.

As an anecdote, my wife was not a good patient. When asked, "Where does it hurt?", I'd get an answer along of the lines of "I don't know". Ugh. So, I had some heavy lifting to do both in care and in my years of research. Not a problem. God leads us down His path and all I ask is, "Lead me!"

So we FIGHT.

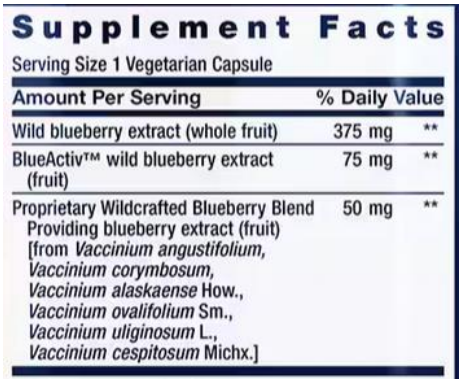
With the help of the **Life Extension Foundation** (www.lef.org) we started giving Patty a number of supplements (all specifically from them).

Why Life Extension Foundation? I've been a member of their "buyers club" for over 35 years. They are a non-profit organization studying health and how to prevent aging. Their origins? A study, initiated by NASA in order to discover how to keep astronauts healthy in space, had two double PhDs from MIT start looking into the matter. What those scientists (Dr. Durk Pearson and Dr. Sandy Shaw) started to discover would literally turn what we knew as nutrition, upside down. And now, years later, the research continues as the Life Extension Foundation (LEF). They have on their scientific and medical boards some of the most prominent gerontolists in the world.

So I called them and we discussed the cancer and potential helpful supplements. It must be stated that the supplements they "sell" are 100% pharmaceutical grade (NOT Amway, or GNC, or Vitamin World, etc.).

We immediately started Patty on 1) Blueberry extract, 2) Green Tea extract, 3) Curcumin extract, and 4) Ginger extract.

- Blueberry extract: two breakfast, two lunch, two dinner



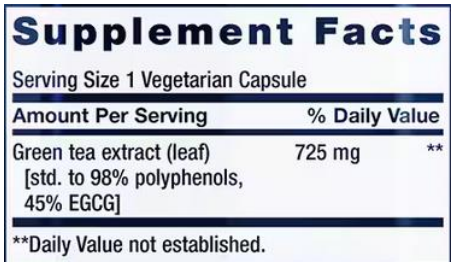
Supplement Facts

Serving Size 1 Vegetarian Capsule

Amount Per Serving		% Daily Value
Wild blueberry extract (whole fruit)	375 mg	**
BlueActiv™ wild blueberry extract (fruit)	75 mg	**
Proprietary Wildcrafted Blueberry Blend Providing blueberry extract (fruit) [from *Vaccinium angustifolium*, *Vaccinium corymbosum*, *Vaccinium alaskaense* How., *Vaccinium ovalifolium* Sm., *Vaccinium uliginosum* L., *Vaccinium cespitosum* Michx.]	50 mg	**

https://www.lifeextension.com/vitamins-supplements/item01214/blueberry-extract-capsules

- Green Tea Extract: two breakfast, two lunch, two dinner.



Supplement Facts

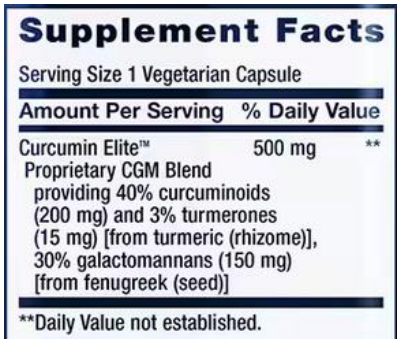
Serving Size 1 Vegetarian Capsule

Amount Per Serving		% Daily Value
Green tea extract (leaf) [std. to 98% polyphenols, 45% EGCG]	725 mg	**

**Daily Value not established.

https://www.lifeextension.com/vitamins-supplements/item00953/lightly-caffeinated-mega-green-tea-extract

- Curcumin Extract: two morning, two lunch, two dinner.



Supplement Facts

Serving Size 1 Vegetarian Capsule

Amount Per Serving		% Daily Value
Curcumin Elite™ Proprietary CGM Blend providing 40% curcuminoids (200 mg) and 3% turmerones (15 mg) [from turmeric (rhizome)], 30% galactomannans (150 mg) [from fenugreek (seed)]	500 mg	**

**Daily Value not established.

https://www.lifeextension.com/vitamins-supplements/item02467/curcumin-elite-turmeric-extract

- Ginger Root extract: one morning, one lunch, one dinner.

https://www.lifeextension.com/vitamins-supplements/item01122/ginger-force

The next 10-11 years were cancer free (aside from radiation injuries).

Radiation

In the course of her first cancer go round, she received a very large radiation protocol that had to be stopped prematurely. Her abdomen had been blackened… black charred skin… burned from the massive radiation does she had received. Later we discovered that her small intestines were also burned beyond repair and segments had to be removed in the following years.

X-rays and gamma rays and neutron bombardment radiation is ionizing radiation. I cannot **STRESS** how dangerous these therapies are because there is **NO recovery** from the damage it does. None. Ever. And once you receive radiation damage, you **WILL** suffer from more cancer and your life will be shortened. There is NO repair. None. Zip. Ultimately, there is NO safe amount. Ever.

I equate radiation therapy to the old maxim: "*the operation was a success but the patient died*". The radiation protocol may have killed the target cancer cells but it also damaged all the other healthy cells in, around, and in front and behind the cancer target. Ionizing radiation breaks your DNA, bursts your cells, and starts a chain reaction of mutations that WILL always ALWAYS **ALWAYS** result in further cancers and a premature end of life. It is a certain ticket to sure death. Always.

To Continue…

So ten years later a second cancer rears it's head. This cancer was called Spindle Cell Sarcoma. Different from the first, it was the result (doctors won't admit) of those severe initial radiation treatments. There could be no other source. And this cancer too was aggressive, fatal, and fast growing. So back to the hospital (Cleveland Clinic Taussig Cancer Center). This time surgery took part of Patty's small intestines as well as the discovered mass. A very difficult recovery and a very difficult 2-3 years followed. And again I was told she had mere months and to expect nothing good.

But again, we beat this second cancer with a mixture of chemo and supplements that were mostly the same as the supplements for the first cancer but this time we added Lion's Mane, Turkey Tail, and Reishi mushroom extracts.

I recall telling her Taussig Cancer Center surgeon about the supplements she was taking during a follow up eighteen months later. He looked up from his notes and said, quietly, "don't stop".

We had beaten a cancer again.

However, two years later, another whole new cancer appeared. This I tell you: radiation is a killer and it's unforgiving. This time the doctors were stumped. They had no idea what this cancer was for sure. We were doing immunotherapy testing and genetic testing and we were told only 40 people have ever had this in the world… or at least what the records indicated.

So again, **fight on!**

We started supplements and they started chemo and we were certain we would win this round too. Unfortunately, in November 2021, my wife passed away in Salem Hospital from a medical error (hypoxia), completely unrelated to cancer.

Life Extension Foundation (LEF)

www.lef.org

I cannot say enough about this organization. Originally started by Dr Durk Pearson (MIT) and Dr Sandy Shaw (MIT) after conducting research for NASA with the goal of keeping the astronauts healthy in space, LEF has grown into a full-fledged research organization with some of the world's top gerontologists on its review boards. What they found, originally, was that we should all be living well past 120-130 years of age without threat of disease. So why aren't we? This is what led them to open a giant can of worms and turn nutrition and medicine upside down. https://www.amazon.com/Life-Extension-Practical-Scientific-Approach/dp/0446387355

In their own words: "For more than 40 years, we've been motivated by the belief that there's a healthier life available to us all, if we seek it. This is what inspires us to keep pushing the limits of nutritional science. From introducing a new standard of protocols for blood screening to our industry-first recommendation of low-dose aspirin for heart health, working for a healthier tomorrow is hardwired into our DNA."

https://www.lifeextension.com/about/life-extension-story/history

Their Medical Advisory Board: https://www.lifeextension.com/featured-articles/special/medadv/medical-advisory-board

Their Scientific Advisory Board: https://www.lifeextension.com/featured-articles/special/advisory/scientific-advisory-board

Many of their services are free. You can request a magazine subscription for free. You can call their on call 24/7 doctors (800 number) for free. And you can view all of their eBooks and medical protocols for free.

Health Hub and eBooks: https://www.lifeextension.com/education

Anti-Aging Self Help and Resources: https://www.lifeextension.com/health-basics/anti-aging-longevity

All of their health protocols are available for free: https://www.lifeextension.com/protocols

Cancer Protocols: https://www.lifeextension.com/protocols#cancer

And their research is all available for viewing: https://www.lifeextension.com/science-research

Supplements

Blueberry Extract.

1. Blueberries are rich in cancer-fighting compounds (Jeyabalan 2014). Mice with breast cancer fed a diet supplemented with blueberry extract powder had smaller tumors and fewer metastases than mice fed a control diet (Kanaya 2014). Most laboratory studies have tested the effects of one particular compound in blueberries, pterostilbene. Pterostilbene has been found to increase self-destruction (apoptosis) of breast cancer cells (Hung 2017), reduce proliferation of three subtypes of breast cancer (Wakimoto 2017), inhibit metastasis (Su 2015), and enhance the effects of tamoxifen (Mannal 2010).

www.lef.org

2. Blueberries are sometimes branded a “superfood,” and for good reason; they are packed full of antioxidants that offer a wealth of health benefits. Now, a new study has uncovered another use for these little berries: helping to treat cancer.

   The researchers note that blueberries also contain resveratrol, as well as flavonoids. “Flavonoids,” notes Dr. Fang, “are chemicals that may have antioxidant, anti-inflammatory, and antibacterial properties.”

   The team tested blueberry extract on human cancer cell lines for their latest study. The extract was tested both alone and in combination with radiation therapy. These effects were compared with those of radiation therapy alone.

   While radiation therapy alone reduced the number of cancer cells by 20 percent, the blueberry extract alone led to a 25 percent reduction in cancer cells. “Cancer cells avoid death by remodeling themselves,” continues Dr. Fang. “Along with reducing cell proliferation, the extract also ‘tricks’ cancer cells into dying. So it inhibits the birth and promotes the death of cancer cells.”

   https://www.medicalnewstoday.com/articles/320517

3. The cancer-fighting agents found in blueberries include anthocyanosides and resveratrol. Anthocyanosides are one of the most potent antioxidants and have been found to have a number of anticancer properties including radical scavenging activity, stimulation of phase II detoxifying enzymes, and reduced cell proliferation and inflammation.

   https://www.nfcr.org/blog/national-blueberry-month-health-benefits-and-cancer-prevention/

4. Blueberries are amongst the most commonly consumed berries in the United States. Berries in general are rich in phenolic compounds, which are known for their high antioxidant capacity. Specifically, evidence from in vitro, in vivo and a few clinical studies suggest that blueberries and their active constituents show promise as effective anti-cancer agents, both in the form of functional foods and as nutritional supplements.

   https://pubmed.ncbi.nlm.nih.gov/23387969/

5. Blueberry extract showed a dose-dependent inhibitory effect on cell proliferation for all cell lines. Non-cytotoxic concentrations of the extract decreased cell adhesion in

five of seven cell lines studied and inhibited the migration of MDA-MB-231 and PC-3 tumor cells. This work provides additional evidence regarding the ability of blueberry extract to inhibit the growth and decrease cell adhesion and migration of different cancer cell lines in vitro.

https://pubmed.ncbi.nlm.nih.gov/32602283/

6. While radiation therapy destroys cancer cells, it also destroys nearby healthy cells. University of Missouri School of Medicine researchers studied in vitro human cancer cells to show that combining blueberry extract with radiation can increase the treatment's effectiveness

   https://medicine.missouri.edu/news/berry-gives-boost-cervical-cancer-therapy

7. Cancer therapy with blueberry, a potential new approach. The cell group that received only blueberry extract had a 25 percent decrease in cancer, but the group that received both radiation and blueberry extract experienced the biggest decline in cancer cells. It was a decrease of about 70 percent.

   https://www.belmarrahealth.com/cancer-therapy-blueberry-potential-new-approach/

8. Blueberries contain many phytochemicals and nutrients which show potential anti-cancer effects in laboratory studies.

   https://www.aicr.org/cancer-prevention/food-facts/blueberries/

9. Blueberry Phytochemicals Inhibit Growth and Metastatic Potential of MDA-MB-231 Breast Cancer Cells Through Modulation of the Phosphatidylinositol 3-Kinase Pathway

   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2862148/

10. Blueberry's potential as a therapeutic agent for brain tumors hinges in part on its ability to cross the blood-brain barrier as well as its ability to inhibit proliferation, migration, and cell survival. In one study, blueberry inhibited the growth of human glioblastoma cells and caused cell death in a dose-dependent manner.[363] It also inhibited the growth of glioblastoma stem-like cells and suppressed the growth of glioblastoma in a mouse model.

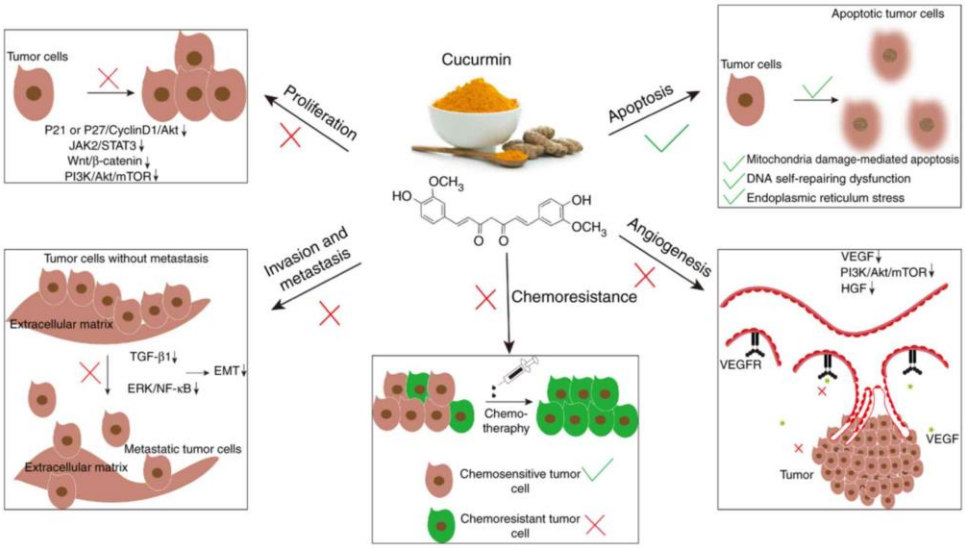
    https://www.lifeextension.com/protocols/cancer/brain-tumor-glioblastoma#

Green Tea Extract (ECGC).

Green tea contains potent antioxidants known as catechins, the most well studied of which is epigallocatechin-3-gallate (EGCG), which has been found to inhibit carcinogenesis in various cancers, including colorectal cancers. Green tea extract is well established to have anticancer actions on growth, survival, angiogenesis and metastatic processes of cancer cells and favorable effects on immune function. Green tea has also been shown to reduce the carcinogenicity of nitrosamines, carcinogenic compounds from cooked meats. A meta-analysis of consumption of green tea across populations found that those consuming the highest levels of green tea had an 18% lower risk of developing colorectal cancer compared to those consuming the lowest amounts. In a clinical study, green tea extract (equivalent of >10 cups/day, or about 150 mg EGCG) lessened adenoma formation, both number and severity, in those with a prior history of adenomas.

2. Made from the leaves of *Camellia sinensis*, green tea contains a variety of antioxidant phytochemicals called polyphenols. Epigallocatechin gallate (EGCG), the principal active ingredient in green tea, appears to possess significant growth-inhibitory effects on lung cancer cells, particularly in conjunction with chemotherapy (Yamauchi 2009; Shim 2010; Wang, Bian 2011; Anderson 2008; Suganuma 2011). Several mechanisms are responsible for its anti-cancer properties in lung cancer, primarily its ability to suppress the EGFR signaling pathway, suppressing EGFR, AKT, and ERK1/2 activation, all of which are associated with lung cancer development (Ma 2014). It also appears to reduce VEGF (vascular endothelial growth factor) expression (Li 2013), increase expression of the tumor suppressor protein p53, and inhibit COX-2 expression (Lu 2012). Another laboratory study found that it inhibited tumor migration as well as increased the effectiveness of docetaxel (Deng 2011). In addition, topical application of green tea may help radiation burns heal faster (Fritz 2013). However, a 2009 study found that green tea blocked the anticancer effects of certain types of chemotherapy agents, boronic acid-based proteasome inhibitors, with bortezomib (Velcade) being the most prominent in this category. The research found no negative effects with non–boronic acid proteasome inhibitors they studied (Golden 2009).

Curcumin Extract



1. Can curcumin slow or stop the growth of cancer cells? The Mayo Clinic says: "At this time, there isn't enough evidence to recommend curcumin for preventing or treating cancer, but research is ongoing." Yet there are two things that stand out in my mind. A) When informing the head surgeon of a specific department at the Taussig Cancer Center in the Cleveland Clinic, a Dr, ….. R…… replied to NOT stop giving the patient curcumin extract. B) Approximately 15-16 years ago a major pharmaceutical company received a patent on a curcumin extract as a way to stop and cure all cancers. There was a full page WSJ proclamation by the company and excitement was high. However, within several months the patent was revoked (presumably under scrutiny by competing pharmaceutical companies crying foul). When this happened, the web page, the ads, the published research, all of it… disappeared. Into the memory hole. I remember watching all this unfold and was astonished at the progression of events. This was also the personal impetus to start looking into natural cures for cancer.

2. NOTE: we are talking about curcumin **extract,** a concentration, NOT just curcumin or turmeric. This is important to understand.

3. Curcumin is an active constituent of the Indian culinary spice turmeric. It has been extensively studied and shown to possess considerable antioxidant and anti-inflammatory properties (Aggarwal 2013; Prasad 2014). Curcumin has also generated interest among cancer researchers due to its apparent chemopreventive properties (Gupta 2013). A number of studies have investigated curcumin's activity against lung cancer in experimental models. One intriguing aspect of curcumin's

bioactivity is its ability to inhibit a signaling pathway called Stat3. Stat3 has been shown to be active in nearly 50% of lung cancers, and curcumin was shown in preclinical in vitro and animal experiments to function as a potent suppressor of the Stat3 pathway (Alexandrow 2012; Yang 2012). Other evidence shows that pretreating lung cancer cells with curcumin may enhance sensitivity to the chemotherapy drug cisplatin. It is thought to accomplish this by downregulating a protein called Bcl-2, which interferes with programmed cell death (Chanvorachote 2009). Additional evidence from a preclinical model shows that curcumin may reduce the invasive potential of lung cancer.

4. In a 2009 study it was found that curcumin can kill many types of cancer cells in multiple ways. Because more than one method is possible, cancer cells are less likely to become curcumin-resistant. Curcumin targets only cancer cells, leaving healthy cells unaffected. This is an important step in potential treatment because chemotherapy drugs kill both healthy cells and cancer cells. "Curcumin modulates growth of tumor cells through regulation of multiple cell signaling pathways including cell proliferation pathway (cyclin D1, c-myc), cell survival pathway (Bcl-2, Bcl-xL, cFLIP, XIAP, c-IAP1), caspase activation pathway (caspase-8, 3, 9), tumor suppressor pathway (p53, p21) death receptor pathway (DR4, DR5), mitochondrial pathways, and protein kinase pathway (JNK, Akt, and AMPK)."

   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2758121/

5. In 2008, a study concluded that curcumin can help fight pancreatic cancer cells, but higher levels are needed. To address this problem, a highly bioavailable form of curcumin, called Theracurmin, was created. The widely available supplement is meant to deliver higher levels of curcumin to people with cancer without increased harm. More research is needed on people with pancreatic and other cancers to determine Theracurmin's effectiveness.

   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4110570/

6. There may be various drug interactions. Some evidence suggests turmeric **may interfere with chemotherapy drugs**. This is particularly true of the drugs doxorubicin and cyclophosphamide. You should talk to your doctor **before** using turmeric or curcumin.

7. Sloan-Kettering: "In studies using curcumin, a phase II trial of patients with advanced pancreatic cancer reported clinically relevant biological activity in two patients despite limited absorption; a blend of green tea, pomegranate, broccoli and curcumin led to a reduction in the rate of prostate-specific antigen (PSA) increase

among men with prostate cancer following a PSA relapse post-radical treatment; when given to colorectal cancer patients during the pre-surgery waiting period, curcumin improved cachexia and anorexia-cachexia syndrome in patients with advanced head and neck cancer but did not produce similar effects in patients with solid tumors; and when combined with hydroxytyrosol and omega-3 fatty acids, curcumin may help reduce inflammation and pain in early breast cancer patients with aromatase-induced musculoskeletal symptoms."

https://www.mskcc.org/cancer-care/integrative-medicine/herbs/turmeric

8. "Curcumin acts on the regulation of various immune modulators, including cytokines, cyclooxygenase-2 (COX-2), and reactive oxygen species (ROS), which partly explains its anticancer effects. It also takes part in the downregulation of growth factors, protein kinases, oncogenic molecules and various signaling pathways, such as nuclear factor kappa-light-chain-enhancer of activated B cells (NF-κB), c-Jun N-terminal kinase (JNK) and signal transducer and activator of transcription 3 (STAT3) signaling."
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8464730/

9. "Curcumin, a hydrophobic polyphenol extracted from turmeric, has gained increasing attention due to its powerful anticancer properties. Curcumin can inhibit the growth, invasion and metastasis of various cancers. The anticancer mechanisms of curcumin have been extensively studied."

   https://pubmed.ncbi.nlm.nih.gov/31223280/

10. "Curcumin, a polyphenolic compound derived from turmeric (Curcumin longa L.), is one such agent that has been widely studied for its anti-inflammatory and/or anti-cancer effects. Curcumin exerts its anti-cancer effect by suppressing the initiation, progression, and metastasis of a variety of cancers and appears to inhibit carcinogenesis by affecting two main processes: angiogenesis and tumor growth."

    https://pubmed.ncbi.nlm.nih.gov/29693253/

11. All this information, and much more, and YET: Jul 21, 2023: The U.S. Food and Drug Administration (FDA) has not approved **curcumin** as a treatment for **cancer** or any other medical condition.

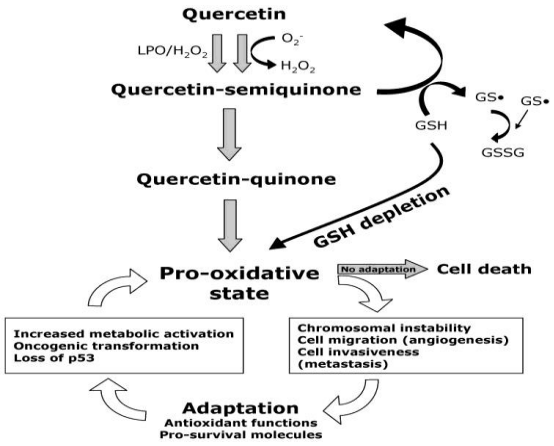
    You choose.

Quercetin

1. Quercetin (3,3',4',5,7-Pentahydroxyflavone) is a plant flavonol from the flavonoid group of polyphenols. It is found in many fruits, vegetables, leaves, seeds, and grains. Raw capers, radish leaves, carob fiber, fresh dill weed, coriander (cilantro seed), red onions have the highest levels of quercetin in the food we eat. Quercetin is present in various kinds of honey from different plant sources.

2. Quercetin is rapidly metabolized (via glucuronidation) after the ingestion of quercetin foods or supplements. Five metabolites (quercetin glucuronides) have been found in human plasma after quercetin ingestion. Taken together, the quercetin glucuronides have a half life around 11-12 hours.

3. Quercetin has been studied in basic research and small clinical trials and while quercetin supplements have been promoted for the **treatment of cancer** and various other diseases, 'Big Pharma' insists there is no high-quality evidence that quercetin (via supplements or in food) is useful to treat cancer or any other disease. But… THERE IS PLENTY OF EVIDENCE THAT IT IS USEFUL and does promote cancer call apoptosis.



4. Quercetin and Cancer: new insights into its therapeutic effects on ovarian cancer cells. According to a wide range of experiments, phytochemicals including polyphenols, flavones, as well as flavonoids possess considerable anti-cancer features, which can be employed against different kinds of cancers. A significant number of studies focused on the anti-cancer properties of quercetin and several pathways have been identified which are affected by quercetin in different cancers. Quercetin is not harmful for healthy cells, **while it can impose cytotoxic effects on cancer cells through several mechanisms,** making it a good candidate to treat

ovarian cancer or to be employed as a supplementary factor along with other anti-cancer medications. So… Big Pharma and Wikipedia ARE WRONG. Quercetin is POWERFUL.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7063794/

5. Quercetin in Cancer Treatment: Cancer is a problem of global importance, since the incidence is increasing worldwide and therapeutic options are generally limited. Thus, it becomes imperative to find new therapeutic targets as well as new molecules with therapeutic potential for tumors. Flavonoids are polyphenolic compounds that may be potential therapeutic agents. Several studies have shown that these compounds have a **higher anticancer potential**. Among the flavonoids in the human diet, quercetin is one of the most important.

   https://pubmed.ncbi.nlm.nih.gov/26264923/

6. Quercetin is a well-known plant flavonoid that is reported to have **anticancer actions** in vitro and in vivo. This review focuses on the molecular mechanisms underlying the chemopreventive effect of quercetin and its therapeutic potential in oncology. Quercetin elicits biphasic, hormetic, dose-dependent effects. It acts as an antioxidant and thus elicits chemopreventive effects at low concentrations, but functions as a pro-oxidant and may therefore elicit chemotherapeutic effects at high concentrations. Quercetin has multiple intracellular molecular targets with the potential to reverse treatment resistance and affect pleiotropic signaling processes that are altered in cancer cells.

   https://pubmed.ncbi.nlm.nih.gov/30441971/

7. The Anti-Cancer Effect of Quercetin: The **anti-cancer effects** of quercetin include its ability to promote the loss of cell viability, apoptosis and autophagy through the modulation of PI3K/Akt/mTOR, Wnt/β-catenin, and MAPK/ERK1/2 pathways.

   https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6651418/

8. Quercetin exhibits direct proapoptotic effects on tumor cells and thus can inhibit the progress of numerous human cancers.

   https://pubmed.ncbi.nlm.nih.gov/30039547/

9. Quercetin has demonstrated **anticancer** effects against various types of cancer cells in the laboratory, including lung, liver, prostate, and breast cancer cells. The effects

appear to be related to the ability of quercetin to reduce oxidative stress and inflammation (Zheng 2012; Granado-Serrano 2012b; Granado-Serrano 2012a; Granado-Serrano 2010; Senthilkumar 2011; Chou 2010). In prostate cancer cells, quercetin has also been found to reduce hormone receptor function and alter gene activity in favor of tumor suppression (Yuan 2010; Nair 2004). In breast cancer cells, quercetin exposure reversed resistance to tamoxifen (Wang, Tao 2015) and increased sensitivity to the chemotherapy drug doxorubicin (Li 2013). It also inhibited breast CSCs, which are thought to play a major role in cancer metastasis, recurrence, and progression (Li 2018; Wang 2018). Findings from animal research suggest quercetin may protect the liver from carcinogenic toxins, inhibit liver cancer growth, and improve sensitivity to the chemotherapy drug 5-fluorouracil (Dai 2016; Carrasco-Torres 2017). In animal models of breast cancer, quercetin has been found to **inhibit** tumor growth, strengthen the immune response to cancer, and increase the effectiveness of doxorubicin (Zhong 2003; Du 2010).

https://www.lifeextension.com/protocols/cancer/cancer-adjuvant-therapy#

Ginger

1. Ginger is highly rich in numerous bioactive constituents such as phenolics, polysaccharides, terpenes, organic acids, raw fibers, and lipids these all together bring it to the list of cancer-fighting foods. However, the health benefits of ginger are mainly associated with its two major phenolic compounds: gingerols and shogaols.

2. Ginger is highly rich in numerous bioactive constituents such as phenolics, polysaccharides, terpenes, organic acids, raw fibers, and lipids these all together bring it to the list of cancer-fighting foods. However, the health benefits of ginger are mainly associated with its two major phenolic compounds: gingerols and shogaols.

3. Ginger also has been shown to protect against cancers and to demonstrate a chemoprotective effect, meaning it protects the body from the side effects of chemotherapy. Some characteristics of ginger's actions include the following: [2]
    a. Induction of apoptosis (programmed cell death) of cancer cells
    b. Inhibits IkBa kinase activation (upregulates apoptosis)
    c. Upregulation of BAX (a proapoptosis gene)
    d. Downregulation of Bcl-2 proteins (cancer associated)

e. Downregulation of prosurvival genes (anti-apoptotic) Bcl-xl, Mcl-1, and Survivin
f. Downregulation of cell-cycle-regulating proteins, including cyclin D1 and cyclin-dependent kinase 4 (CDK4) (cancer associated)
g. Increased expression of CDK inhibitor, p21 (anticancer associated)
h. Inhibition of c-Myc, hTERT (cancer associated)
i. Abolishes RANKL-induced NF-kB activation
j. Inhibits osteoclastogenesis (type of bone cell that breaks down bone tissue to remodel and repair)

4. What is even more exciting is that studies now also confirm this spicy root has potent anti-cancer properties that can be *up to 10,000 times more effective than conventional chemotherapy for targeting cancer stem cells,* preventing new tumors from forming, and even keeping healthy cells alive, something chemotherapy cannot do.

   https://dailyhealthpost.com/ginger-destroys-cancer/

5. One 2012 study published in the *British Journal of Nutrition* clearly revealed that whole ginger extract (GE) exerts significant "growth-inhibitory and death-inductory" effects in a wide range of prostate cancer cells. In fact, the study suggests that GE can inhibit the growth and progression of prostate cancer cells by as much as 56 percent.

   https://dailyhealthpost.com/ginger-destroys-cancer/

6. Gingerol (an active component of ginger) modulates a variety of cell signaling pathways linked to cancer, including Nuclear Factors (NF-κB), Signal Transducer and Activator of Transcription 3 (STAT3), Activator Protein-1 (AP-1), β-catenin, Growth Factors Receptors (EGFR, VEGFR); Mitogen-Activated Protein Kinases (MAPK) and pro-inflammatory mediators (TNF-α and COX-2). Both in vitro and in vivo studies support the role of gingerol in cancer.

   https://pubmed.ncbi.nlm.nih.gov/32951584/

   https://www.admaconcology.com/2020/07/14/ginger-cancer-fighting-food/

Lycopene

1. Lycopene is a member of carotenoids (family of pigmented molecules that impart colour to various fruits and vegetables, especially red, orange and yellow). It is a highly unsaturated open straight-chain hydrogen compound that exhibits significant antioxidant, immune modulation, gene function regulation, and carcinogen metabolism actions.

2. lycopene also exhibits significant anti-cancer effects. This property of lycopene is due to its potent antioxidant, anti-proliferative, anti-apoptotic, anti-inflammatory, anti-metastatic, and chemoprotective properties.

    a. Lycopene satiates singlet oxygen, scavenges free radicals, and precludes the oxidative damage, thereby reduces the potential risk of transforming normal cells into cancerous/tumorous cells.
    b. It helps in expulsion of foreign substances and carcinogens out of the body by stimulating hepatic quinine reductase and cytochrome P450.
    c. It impedes the G1 and S-phase (synthesis phase) of the cancer cell cycle and phosphorylation of anti-oncogenes.
    d. It also found to hinder the activities of matrix metalloproteinases-2 (MMP-2), MMP-9, and platelet-derived growth factor, which helps to reduce the tumor invasion, growth, and metastasis.
    e. Ultimately, lycopene also helps in increasing gap Junction communications, modulating carcinogen-metabolizing enzymes, gene functions, anti-proliferative action, anti-lipid peroxidation actions, and immune function.

3. All these mechanisms initiated by lycopene molecules aid in restricting the progression and metastasis of tumor cells. Therefore, food for cancer patients must contain this phytochemical.

    https://www.admaconcology.com/2020/07/02/lycopene-food-for-cancer/

Selenium

1. Selenium helps displace heavy metals from the body. This anti-oxidant mineral is recognized more and more as essential in the fight against cancer; for example, German research shows it lowers prostate cancer risk.

Silymarin

Co-Enzyme Q10

Research shows antioxidant, anti-ageing, anti-cancer benefits levels in tissues decline as you age. Essential to your mitochondria, US research clearly shows you can recapture the levels of your youth by supplementation. Max 50 mgs a day. Above is wasted.

Vitamin D3

1. In laboratory studies, vitamin D interferes with several cancer processes (Pdq Integrative 2017; Abu El Maaty 2017; Moukayed 2017). For instance, laboratory data suggest vitamin D can prevent cancer cells from metastasizing (Hsu 2011). Several animal studies have shown that under some conditions vitamin D can control tumor growth (Pdq Integrative 2017; Mordan-McCombs 2010; Ajibade 2014). In addition, vitamin D can boost the immune system, possibly helping it identify and destroy cancer cells (Pandolfi 2017). Several studies have explored whether vitamin D can help fight prostate cancer in humans (Brandstedt 2016; Xie, Chen 2017). In one study, serum vitamin D levels were analyzed before diagnosis in 1,000 patients with prostate cancer. Those with higher vitamin D levels were significantly less likely to die from the disease (Mondul 2016). In another study, short-term supplementation with high-dose vitamin D for three to eight weeks lowered PSA levels (Wagner 2013). As part of another study, 52 men with low-risk prostate cancer being monitored with active surveillance took 4,000 IU vitamin D3 daily for one year. In 55% of the men, the prostate cancer was less extensive at the end of the study than at the beginning based on biopsy analysis (Marshall 2012). Vitamin D supplementation improved PSA test results in two additional studies (Srinivas 2009; Newsom-Davis 2009).

2. Hormone therapy can weaken the bones of prostate cancer patients, but supplemental vitamin D may help prevent fractures in these patients (Ottanelli 2015; Dueregger 2014). A study examining factors associated with bone preservation in prostate cancer patients using hormone therapies found that those taking vitamin D supplements experienced less bone loss in their lower-back vertebrae (Alibhai 2013).

3. **The number 1** supplement*. If you cannot get a couple of hours in the sunshine every day, you should consider supplementation of 5000IUs, as recommended by Harvard Medical School. This vitamin is actually a hormone and has been shown to activate the immune system, reduce the risk of cancer and even correct cancer cells in research studies

Vinpocetine

Vitamin A

Vitamin B12

Vitamin C

1. Vitamin C has an ability to starve cancer cells at high doses - mimicking sugars. However, you cannot possibly ingest enough Vit C to achieve this without suffering severe side effects. Recently, vitamin C given through a vein (intravenously) has been found to have different effects than vitamin C taken in pill form. This has prompted renewed interest in the use of vitamin C as a cancer treatment.

2. Studies have shown that liposomal vitamin C can assist in fighting cancer cells by promoting cell death and reducing tumor growth. Additionally, it can boost the immune system, reducing the severity and frequency of infections in cancer patients

   https://cancercenterforhealing.com/liposomal-vitamin-c-cancer-2/

3. High-dose intravenously administered vitamin C (IVC) is widely used in cancer patients by complementary and alternative medicine practitioners. The most frequent indications for IVC therapy result from the belief in its effectiveness as a potent anti-cancer agent which additionally enhances chemosensitivity of cancer cells and reduces chemotherapy-related toxicities and fatigue intensity. https://pmc.ncbi.nlm.nih.gov/articles/PMC7996511/

Vitamin E

Adjuncts

5-Amino 1MQ

The role of 5-Amino 1MQ in cancer research is under scrutiny due to its potential effects on cellular metabolism

Black Seed (Cumin) Oil

From Memorial Sloan Kettering: “Nigella sativa is a flowering plant found throughout India, Arabia, and Europe. The seeds, commonly known as black seeds or black cumin, are used in cooking and in traditional medicine to reduce inflammation, as well as to treat infections and cancer.”

https://www.mskcc.org/cancer-care/integrative-medicine/herbs/nigella-sativa

“Thymoquinone and other constituents in Black Seed Oil showed anticancer effects. N. sativa oil, when injected, protected against radiation-induced tissue damage in a murine model. Oral intake of N. sativa seeds lowered the incidence of febrile neutropenia and length of hospital stay in children with brain tumors; and topical application of an N. sativa gel decreased the severity of acute radiation dermatitis in breast cancer patients. Larger studies are needed to confirm these findings.”

“Nigella sativa has been used as traditional medicine for centuries. The crude oil and thymoquinone (TQ) extracted from its seeds and oil **are effective against many diseases like cancer**, cardiovascular complications, diabetes, asthma, kidney disease etc. It is effective against cancer in blood system, lung, kidney, liver, prostate, breast, cervix, skin with much safety. The molecular mechanisms behind its anticancer role is still not clearly understood, however, some studies showed that TQ has antioxidant role and improves body's defense system, **induces apoptosis and controls Akt pathway**. Although the anti-cancer activity of N. sativa components was recognized thousands of years ago but proper scientific research with this important traditional medicine is a history of last 2~3 decades.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3252704/

"A 2010 study published in Oncology Letters found that when rats were given doses of crude extra virgin black cumin seed oil twice a day, the growth of cancer tumors stopped. This study found that black cumin seed oil has the potential to be chemopreventative. This means the oil can be used to potentially prevent cancer."

https://aboutblackseedoil.com/black-cumin-seed-cancer/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8225153/

https://www.healthline.com/nutrition/black-seed-oil

Where can you get this?

https://www.lifeextension.com/search#q=black%20cumin%20seed%20oil&t=coveo4A2453FD

Carrots

"Carrots' cancer-fighting potential comes from being a non-starchy vegetable as well as a source of carotenoids and other phytochemicals. Beta-carotene is the carotenoid that has received the most attention, but research into carrot's other compounds, and carrots as a whole food, is underway."

https://www.aicr.org/cancer-prevention/food-facts/carrots/

https://www.oncologynutrition.org/erfc/healthy-nutrition-now/foods/should-i-be-juicing

"Drinking juice made from carrots, dark leafy greens, and other fruits and vegetables is an effective way to counteract the growth of cancerous cells and tumors in the body. What's great about juicing is that, if done properly, there are no health side effects to worry about."

https://beatcancer.org/blog/curing-cancer-with-carrots/

CBD Oil

1. CBD oil shows promise in preclinical studies for potential anti-cancer effects, but there's no solid evidence it can treat or cure cancer in humans.

2. Studies suggest CBD may inhibit cancer cell growth, induce apoptosis (programmed cell death), and reduce tumor spread in certain cancers, such as breast, lung, and glioblastoma. For example, a 2011 study in Breast Cancer Research and Treatment found CBD induced cell death in breast cancer cells without harming healthy cells.

3. CBD may reduce inflammation and oxidative stress, which are linked to cancer progression. This was noted in a 2018 review in Frontiers in Pharmacology. (GROK3)

Castor Oil

The hype: Castor oil has been recently promoted as a cancer cure over the Internet and social media, particularly on TikTok with claims that it can treat breast cancer by topical application. Recently, we began receiving requests for information about the benefits of castor oil.

The evidence: **There is no evidence** that castor oil can fight cancer.

Coffee

1. Coffee contains many phytochemicals that have demonstrated anticancer properties. Preclinical studies have shown that certain coffee constituents can promote cancer cell death, reduce the ability of cancer cells to invade and spread, reduce new blood vessel growth (which is required for tumors to grow), and improve anticancer immune activity (Gaascht 2015). Although the data are inconsistent, some studies have found that coffee drinkers are protected against certain cancers. The strongest evidence for the cancer-preventive effects of coffee was found in regard to liver and endometrial cancers (Alicandro 2017; Arab 2010). Coffee may also protect against the most aggressive prostate cancers. In one study that included 47,911 men, drinking six cups or more of caffeinated or decaffeinated coffee daily was correlated with a 60% lower risk of lethal prostate cancer compared with drinking no coffee (Wilson 2011).

2. Coffee consumption has been associated with better colorectal cancer outcomes in two separate studies. The first study followed 953 people with invasive (stage 3) colorectal cancer. Participants who consumed four or more cups of coffee per day had a 42% lower risk of recurrence or death than non-coffee drinkers. A smaller benefit was seen in participants drinking two to three cups per day; participants

drinking one cup or less daily did not derive any colorectal cancer outcome benefits (Guercio 2015).

3. The second study involved 1,599 participants diagnosed with invasive (stage 1–3) colorectal cancer. Over the course of 7.8 years of follow-up, participants who consumed at least four cups of coffee per day had a 52% lower risk of death due to colorectal cancer than participants who did not drink any coffee. In addition, patients whose intake before and after diagnosis was consistently more than two cups daily had a 37% reduced risk of cancer-related death and a 29% reduced risk of death from any cause than patients consistently drinking less than two cups daily (Hu Y 2018).

4. Coffee may also affect outcomes in some women with breast cancer. One study included 1,090 women treated surgically for breast cancer. Among a subgroup of participants with estrogen-sensitive cancer receiving tamoxifen followed for three to nine years after surgery, daily coffee intake of two or more cups per day was associated with a lower risk for breast cancer recurrence (Rosendahl 2015). A separate study also found that coffee consumption appeared to lessen the number of recurrences during 3–6 years of monitoring in women taking tamoxifen after breast cancer surgery (Simonsson 2013).

5. Chlorogenic acid complex (CGA7), standardized extract from green coffee beans exerts anticancer effects against cultured human colon cancer HCT-116 cells

   https://www.lifeextension.com/protocols/cancer/cancer-adjuvant-therapy#

Dandelions

Can dandelions kill cancer cells? "*To say that dandelions aren't appreciated enough is a gross understatement. Suburb dwellers often spend countless hours trying to rid their lawn of the weed throughout the summer. However, science is showing that the stubborn plant may be a lot more beneficial than we give it credit for.*"

"Interest in the curative properties of dandelion root began when John DiCarlo, 72, told his doctor that he cured his cancer by drinking dandelion tea. Dicarlo had been admitted to a hospital three years ago with leukemia. His disease did not respond to aggressive treatment and he was sent home to live out his life surrounded by his family. The cancer clinic suggested he try the tea. Four months later, he returned to the clinic in remission. He has been cancer free for three years."

https://dailyhealthpost.com/dandelion-root-kills-cancer-cells/

"So far, the weed has proven to be effective against pancreatic cancer cells, colon cancer cells and melanoma cultures. It may even rival Taxol, one of the most commonly used drugs for chemotherapy (5). Plus, unlike traditional chemotherapy, dandelion extracts target cancer cells specifically, without harming other cells. "Compared to Taxol, this one is 100 times better in terms of toxicity," says Dr. Pandey."

"We are excited about it because it is a very simple natural extract, so it's like you buying the vegetable and cooking it, basically, it is as simple as that, because we are not interfering with any chemicals."

"Some limited, but positive, research has indicated that dandelion may help reduce the growth of certain types of cancer. So far, studies have looked at dandelion's impact on cancer growth in test tubes and found that it may help with slowing the growth of certain cancers. One study examining cancer growth in a test tube determined that dandelion extract may help reduce the growth of liver cancer. Other research has shown similar benefits for colon cancer, breast cancer, pancreatic cancer, and prostate cancer."

https://www.medicalnewstoday.com/articles/324083#10-possible-health-benefits

"Dandelion extracts have been studied extensively in recent years for its anti-depressant and anti-inflammatory activity. Recent work from our lab, with in-vitro systems, shows the anti-cancer potential of an aqueous dandelion root extract (DRE) in several cancer cell models, with no toxicity to non-cancer cells. In this study, we examined the cancer cell-killing effectiveness of an aqueous DRE in colon cancer cell models. Aqueous DRE induced programmed cell death (PCD) selectively in > 95% of colon cancer cells, irrespective of their p53 status, by 48 hours of treatment."

https://pubmed.ncbi.nlm.nih.gov/27564258/

However, USATODAY suggests this potential treatment is mere hoax. But they do concede a little…

"There is some evidence to suggest dandelion root extract (or DRE) may have anti-cancer properties. In studies looking at melanoma, leukemia and pancreatic cancer, the extract appeared to be helpful in coaxing cancer cells to self-destruct, getting the body to kill the cells itself, or slowing down cancer's overall cellular growth. However, to date, there have been no conclusive clinical studies suggesting DRE can treat cancer in humans, according to Memorial Sloan Kettering Cancer Center."

So then… what? We don't try because USAToday says they've "fact checked it" and it's not worth the attempt even when the Nation Institutes of Health has evidence that it helps?

https://www.usatoday.com/story/news/factcheck/2021/05/04/fact-check-dandelion-root-does-not-treat-cancer-two-days/4886361001/

NIH: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5341965/

Ellagic Acid

See “Scotch”

Herbs

https://www.canceractive.com/article/20-Herbs-that-can-fight-cancer

Astragalus

(Huang Qi) A Chinese herb; an immune system booster, known to stimulate body’s natural production of interferon. It also helps the immune system identify rogue cells. Work with the herb in both cancer and AIDS cases has been encouraging. The MD Anderson Cancer Centre in Texas conducted research showing that taking Astragalus when having Radiotherapy doubled survival times.

Berberine

(Podophyllum peltanum) Slow active purgative. Research has shown these herbs to have a strong action against cancer and they have been used with many cancers, especially Ovarian cancer. In Cancer Watch March 2015, an ingredient Berberine, was shown in research to outperform brain cancer drug, Temozolomide *in vitro*. It was also shown to act synergistically with it and improve its efficacy. Berberine is anti-inflammatory, attacks microbes, attacks the AMPK pathway in cancer cells and cuts blood sugar.

Bloodroot

(Sanguinaria canadensis) Research shows consistent anti-neoplastic activity. It has been shown to be effective against cancer tumours, and can shrink them; it is one of the herbs in an anti-cancer poultice called Black Salve against breast and skin cancers; and has proven useful with sarcomas.

Butchers Broom

(Ruscus aculeatus) The active ingredients of this herb has been found to be the ruscogenins which have tumour-shrinking and anti-oestrogenic abilities. Thus its use in the treatment of breast cancer.

Cats Claw

(Uncaria tormentosa) An adaptogen and powerful immuno-stimulant, it enhances the white cells clean up process (phagocytosis). It is an excellent companion to astragalus, curcumin and echinacea. Research indicates it can reduce tumour size, particularly with skin cancers. It also helps reduce the side-effects of chemo and radiotherapy.

Chaparral

(Larrea mexicana) Cancer Watch covered a major research study from the US which heaped praise on this herb. It appears to boost the immune system, stop metastases and reduce tumour size. Seems especially interesting with breast cancer and is another ingredient in Black Salve. It is also an anti-oxidant and anti-microbial, with low toxicity.

*Curcumin****

(Turmeric) Turmeric root contains 3% curcumin. Both have significant anti-microbial and anti-inflammatory activity. That alone seems enough for certain hospitals in America to consider using it in the treatment of polyps and colon cancer. However new research shows that it can *attack cancer stem cells*, shrink cancer tumors and inhibit blood supply growth to tumors. It is a powerful antioxidant with liver protective benefits, and outperformed several anti-inflammatory drugs without side-effects in research.

Dang Shen Root

(Codonopsis pilosula) Increases both the white blood cell and red blood cell levels, so can be extremely helpful to patients having chemotherapy and radiotherapy, or to patients whose cancer diminishes levels of either.

Echinacea

Another known immune system booster, it gained a populist reputation in treating colds. There is research on its helpfulness with brain tumors apart from its abilities to increase the levels of certain immune white cells in the body.

Feverfew

This herb caused a storm when research from Rochester University in New York showed it to be more effective than the drug cytarabine in killing leukaemia cells. The US Food and Drug Agency put the active ingredient, parthenolide, on to its fast track program. **Nothing** has yet been heard, of course. But then, the FDA has never approved a herb for use as a cancer treatment.

Goldenseal

One cause of stomach cancer can be the bacterium *Helicobacter pylori*. This burrows into the mucous lining of the stomach to hide from gastric acids, and then causes irritation, acid reflux, ulcers and even cancer. Goldenseal is generally anti-microbial and is used in the Caribbean and South East Asia against parasites. Goldenseal, helped by the mineral Bismuth, will kill Helicobacter pylori. Vets seem to know this, even if doctors don't. Berberine can be found in Goldenseal.

Milk Thistle

Known for years to be helpful in strengthening the liver, this herb has now been shown to be capable of protecting the liver during chemotherapy. Research in America showed that leukaemia patients who took milk thistle had reduced liver toxicity and chemo side-effects. There is a little evidence that it has its own anti-cancer activity too.

Pau D'Arco

This tree bark was original thought to be a strong anti-cancer agent, but then its actions were clarified as strongly anti-bacterial, anti-yeast and anti-viral. That alone might be enough to eradicate cancer drivers. But new research on the differing ingredients has shown the quinoids possess immune strengthening abilities and seem to help in cases of blood and lymph cancers.

Red Clover

Research from a number of cancer centers including the Royal Marsden has shown its potential as a part of a treatment program against estrogen-driven cancers, from breast to prostate. One active ingredient in the so-called Herb of Hippocrates is Genistein, which Professor Powles formerly of the Royal Marsden dubbed 'the anti-estrogen'.

Sheep's Sorrel

Used in Essiac and other herbal remedies, it is a cleanser and aids healthy tissue regeneration. There is some suggestion from research that it helps normalize damaged cells and tissue. It is also a highly praised 'vermifuge' - intestinal worms have little or no resistance to this herb.

Skullcap

(Scutellaria barbata) Research has shown action against many cancer types, for example against cancers of the lung, stomach and intestines.

Sutherlandia

(Cancer Bush) Peer reviewed research studies indicate that this herb is anti-inflammatory, anti-viral and anti-fungal. It boosts the immune system and inhibits Tumor Necrosis Factor, known to drive wasting in cancer patients.

Thorowax

(Bulpleurum scorzoneraefolium) Research has shown its ability to enhance the production of natural interferon and it seems especially useful in bone cancer.

Wheatgrass

One of the top private hospitals in South East Asia extols the benefits of freshly juiced wheatgrass. One shot gives you the chlorophyll of some 12 or more kilograms of broccoli. It acts as a blood purifier, and liver and kidney cleansing agent. In research, after two weeks of daily use, blood and tissue oxygen levels improve, as does circulation.

Sweet Wormwood

Another Chinese Herb, Artemesia annua, has ingredients like artemisinin and artesunate that have outperformed the anti-malaria drugs and Artemisinin is now used as the number 1 drug against Malaria. It is strongly anti-microbial and anti-yeast and can be used as an effective part of an anti-candida diet. Also certain cancer treatments cause excesses of yeasts to form (for example, in Leukemia treatment) threatening the patient's health further. It is also known to attack pathogens like *E.coli* and *Borrelia borgdorferi*. In 2017 research Wormwood was shown to have direct anti-cancer properties.

Horseradish

1. **Horseradish** is a pungent root vegetable that is particularly high in glucosinolates, specifically **sinigrin**, which is converted into **allyl isothiocyanate**. This compound is known for its ability to *inhibit the growth* of cancer cells and support the elimination of toxins from the body. Horseradish contains cancer-fighting compounds known as *glucosinolates*. Glucosinolate type and quantity vary depending on size and quality of the horseradish root. A daily teaspoon of the pungent condiment is sufficient to get the benefit.

   https://scientificorigin.com/14-best-foods-high-in-glucosinolates-for-cancer-prevention

2. Glucosinolates are organic compounds found in high concentrations within cruciferous vegetables. Plant tissue damage initiates the release of myrosinase, which breaks down glucosinolates into the biologically active compounds indole-3-carbinol (I3C) and sulforaphane

3. "In vitro studies have suggested that I3C and sulforaphane can mitigate cancer progression via hormone regulation and antioxidant mechanisms, respectively. We hypothesized that I3C would differentially affect cancer cell growth depending on cell line of origin, and that sulforaphane would induce a genetic signature similar to compounds and genetic perturbations with anticancer properties."

   https://aacrjournals.org/cancerres/article/85/8_Supplement_1/4339/756861/Abstract-4339-Glucosinolates-selectively-target

Indole-3-carbinol (I3C)

1. Indole-3-carbinol (C_9H_9NO), sometimes referred to as I3C, is produced by the breakdown of the glucosinolate glucobrassicin, which can be found at relatively high levels in cruciferous vegetables such as broccoli, cabbage, cauliflower, brussels sprouts, collard greens and kale. It is also available in dietary supplements. Indole-3-carbinol is the subject of on-going biomedical research into its possible anticarcinogenic, antioxidant, and anti-atherogenic effects.

   Indole-3-carbinol induces a G1 growth arrest of human reproductive cancer cells. This is potentially relevant to the prevention and treatment of cancer, as the G1 phase of cell growth occurs early in the cell life cycle, and, for most cells, is the major period of cell cycle during its lifespan. The G1 phase is marked by synthesis of various enzymes that are required in the next ("S") phase, including those needed for DNA replication.

2. A summary of studies shows that indole-3-carbinol (I3C) can:

   - Stop human cancer cells from growing (54-61%) and provoke the cells to self-destruct (apoptosis) (Telang et al. 1997)

   - Inhibit human breast cancer cells (MCF7) from growing by as much as 90% in vitro (Ricci et al. 1999)

   - Inhibit the growth of estrogen-receptor-positive breast cancer cells by 90%, compared to tamoxifen's 60%, by stopping the cell cycle (Cover et al. 1999)

- Prevent chemically induced breast cancer in rodents by 70-96%. Prevent other types of cancer, including aflatoxin-induced liver cancer, leukemia, and colon cancer (Grubbs et al. 1995)

- Inhibit free radicals, particularly those that cause the oxidation of fat (Shertzer et al. 1988)

- Stop the synthesis of DNA by about 50% in estrogen-receptor-negative cells, whereas tamoxifen had no significant effect (Cover et al. 1998)
- Restore p21 and other proteins that act as checkpoints during the synthesis of a new cancer cell. Tamoxifen has no effect on p21 (Cover et al. 1998)

- Virtually eliminate DNA damage and cancer prior to exposure to cancer-causing chemicals (in animals fed I3C) (Grubbs et al. 1995)

- Reduce DNA damage in breast cells by 91% (Devanaboyina et al. 1997)

https://aacrjournals.org/cancerpreventionresearch/search-results?page=1&q=I3C&SearchSourceType=1

https://en.wikipedia.org/wiki/Indole-3-carbinol

Laetrile

1. Laetrile, first popularized as a cancer therapy in Russia and the United States more than a century ago, is the trade name for a purified form of amygdalin, an extract derived from apricot pits and some nuts and plants. Intestinal enzymes break down Laetrile to produce cyanide, which proponents claim kills cancer cells and leaves normal tissue unharmed. Some also claim that Laetrile is actually a vitamin called B-17 and that deficiencies can cause certain cancers. Banned in the United States, an oral form of Laetrile is available in other countries.

2. Laetrile indeed breaks down into cyanide, but the poison doesn't just selectively strike cancer cells — it can sicken or kill patients as well. Clinical studies done in the 1970s and 1980s, including those sponsored by the National Institutes of Health, indicated that Laetrile didn't reduce malignant tumors' size or growth, but some patients experienced cyanide poisoning.

3. "Laetrile hasn't been shown to combat cancer and can pose the risk of cyanide poisoning," Dr. Hou emphasizes. "If amygdalin is ever considered for use in an

anticancer medication, it would need to be in a modified form, as the oral version is toxic to normal human cells and too hazardous for use."

Lion's Mane Mushroom

1. Lion's mane (Hericium erinaceus) is a medicinal mushroom known for its potential health benefits, including immune support, cognitive enhancement, and anti-inflammatory properties. Recent research has sparked interest in its potential for cancer treatment, with studies showing antiproliferative effects on cancer cell lines, apoptosis induction, and tumor growth inhibition in animal models.

2. Lion's mane mushroom extracts have demonstrated antiproliferative effects on various cancer cell lines, including colon cancer cells. These findings suggest that Lion's mane mushrooms may have the ability to slow down or halt the growth of tumor cells, making them an excellent health-promoting functional food. In addition to inhibiting the growth of cancer cells, Lion's mane mushroom extract has been found to induce apoptosis or cancer cell death. This is an essential mechanism in controlling cancer cell metastasis, as it helps prevent the spread of cancer cells to other parts of the body.

3. This apoptosis is seen in most all cancers.

https://www.naturesrise.com/blogs/brainfood/lions-mane-cancer

https://www.healthline.com/nutrition/lions-mane-mushroom

https://pubmed.ncbi.nlm.nih.gov/23668749/

Marijuana - THC

1. Studies suggest THC may have anti-cancer effects. For example, research on cell cultures and animal models has shown that THC and other cannabinoids can inhibit cancer cell growth, induce apoptosis (cell death), and reduce tumor size in certain types of cancer, like glioma (a type of brain cancer). A 2014 study in Molecular Cancer Therapeutics found that THC and CBD (another cannabinoid) together enhanced the effects of radiation in glioma models. These effects are thought to occur through interactions with cannabinoid receptors (CB1 and CB2) or other pathways in cancer cells. (GROK3)

2. Phytocannabinoids and synthetic cannabinoids can interact with the components of ECS or other cellular pathways and thus affect the development/progression of cancer. In addition, numerous cell culture and animal studies showed antitumor effects of cannabinoids in various cancer types.

Melittin (MLT) - Bee Venom

"Despite decades of study, the molecular mechanisms and selectivity of the biomolecular components of honeybee (*Apis mellifera*) venom as anticancer agents remain largely unknown. Here, we demonstrate that honeybee venom and its major component melittin **potently induce cell death**, particularly in the aggressive triple-negative and HER2-enriched breast cancer subtypes. Honeybee venom and melittin suppress the activation of EGFR and HER2 by interfering with the phosphorylation of these receptors in the plasma membrane of breast carcinoma cells. Our work unveils a molecular mechanism underpinning the anticancer selectivity of melittin, and outlines treatment strategies to target aggressive breast cancers."

https://www.nature.com/articles/s41698-020-00129-0

"Melittin (MEL), a major peptide component of bee venom, is an attractive candidate for cancer therapy. This agent **has shown a variety of anti-cancer effects** in preclinical cell culture and animal model systems. Despite a convincing efficacy data against variety of cancers, its applicability to humans has met with challenges due to several issues including its non-specific cytotoxicity, degradation and hemolytic activity." *(my comment: and pressure from Big Pharma to just not go there).*

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5682937/

"Honeybee venom kills aggressive breast cancer cells. In laboratory studies, the active component of honeybee venom rapidly killed two types of breast cancer cells that are particularly difficult to treat. Crucially, the toxin left healthy cells unharmed."

"For thousands of years, humans have used honey, propolis, and venom from the European honeybee Apis mellifera as medicines. More recently, scientists have discovered that honeybee venom and its active component, melittin, are **toxic to a wide range of tumors** — including melanoma, lung, ovarian, and pancreatic cancers — in laboratory tests. Melittin is the molecule that creates the painful sensation of a bee's stingTrusted Source. Scientists do not fully understand how it kills cancer cells, however. For the first time, researchers have investigated the effect of melittin and honeybee

venom on a range of breast cancers, including two of the most aggressive and hard-to-treat types."

https://www.medicalnewstoday.com/articles/honeybee-venom-kills-aggressive-breast-cancer-cells

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8773652/

Metformin

Metformin is a prescription medication used first-line to treat type 2 diabetes. It is prescribed frequently, with over 60 million prescriptions since 2012 in the United States. Recent clinical trials indicated that metformin intake might play a protective role in the incidence and oncologic outcomes of various cancers. However, its protective effect on bladder cancer remains under study although results may be promising. Basically cancer is not a reported side effect of metformin. And in fact, the American Diabetes Association and the American Cancer Society have reported that metformin may be associated with a decreased risk of certain cancers, such as:

- Breast cancer
- Bladder cancer (still under study)
- Colorectal cancers

About that bladder cancer: Proposed mechanisms of anti-carcinogenic effects of metformin against bladder cancer: (1) metformin induces growth inhibition, (2) metformin regulates insulin and glucose levels, (3) metformin induce cell death, (4) metformin potentiates the cytotoxicity of chemotherapeutic drugs, (5) metformin's association with oxidative stress, DNA Damage Response (DDR), (6) immune and hypothalamic effects of metformin and (7) autophagy effects of metformin. The potential beneficial effects of metformin against cancer are believed to be mediated mainly by one or more mechanisms: (1) metformin induces growth inhibition, (2) metformin regulates insulin and glucose levels, (3) metformin induce cell death, (4) metformin potentiates the cytotoxicity of chemotherapeutic drugs, (5) metformin's association with oxidative stress, DNA Damage Response (DDR), (6) immune and hypothalamic effects of metformin and (7) autophagy effects of metformin.

However, in May 2020, the Food and Drug Administration (FDA) released a statement regarding higher-than-acceptable levels of a substance called N-nitrosodimethylamine (NDMA) in some preparations of extended-release metformin. Initially, two pharmaceutical companies—Amneal Pharmaceuticals and Apotex—were involved in the recall. The FDA then requested other drug manufacturers evaluate their products and test for NDMA. Subsequently, some lots

of extended-release metformin from the companies of Marksans Pharma, Lupin, and Teva Pharmaceuticals were recalled as well. Apparently not all metformin products are equal.

Combating endometrial cancer: Prominent mechanisms by which metformin combats endometrial cancer appear to be through promotion of progesterone receptor expression and the reversal of progestin resistance in endometrial cancer cells (Zhang 2011; Xie 2011). Since endometrial cancer is largely an estrogen-driven disease, one of the treatments is to administer progesterone or synthetic progestins, which counter the action of estrogen in the endometrium. However, a major hurdle for this treatment approach is that the target for progesterone and synthetic progestins, the progesterone receptor, is often downregulated in endometrial cancer cells, especially following long-term treatment with a synthetic progestin. This negates the effects of progesterone or synthetic progestins, even if ample concentrations are available. In an experimental study, scientists administered metformin along with the synthetic progestin medroxyprogesterone acetate (MPA). They found that metformin markedly increased the expression of the progesterone receptor and had synergistic activity with MPA to decrease proliferation of the cancerous cells (Xie 2011). Likewise, researchers in China conducted an experimental study and concluded similarly that metformin "*reversed progestin resistance, enhanced progestin-induced cell proliferation inhibition, and induced apoptosis in progestin-resistant [endometrial cancer] cells*" (Zhang 2011).

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6078654/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5376285/

https://www.verywellhealth.com/metformin-cancer-5116117

https://www.lifeextension.com/protocols/cancer/uterine-endometrial-cancer

Methylene Blue

1. Recent studies suggest that Methylene Blue has **potential** anticancer properties.
2. Recent lab studies suggest Methylene Blue might pack more of a punch against cancer than previously thought. Scientists have found it works through multiple pathways – it's not just a one-trick pony. Similar to its effects on harmful bacteria and parasites, Methylene Blue works through multiple pathways
3. A groundbreaking 2023 study published in Pharmaceutics revealed something fascinating about Methylene Blue: it actually makes cancer cells more vulnerable to

treatment. The researchers discovered that combining Methylene Blue with traditional chemotherapy drugs helped overcome drug resistance in aggressive breast cancer cells (Chen et al., 2023). The study showed Methylene Blue disrupted something called "mitochondrial metabolism," essentially cutting off the cancer cells' energy supply.

4. Think of Methylene Blue as a double agent inside cancer cells. Here's what happens:
    a. It sneaks into the cell's power plants (mitochondria) by passing through cellular membranes with remarkable efficiency, thanks to its unique molecular structure that allows it to penetrate even the most resistant cancer cell walls
    b. Messes with their energy production by interfering with key metabolic processes, specifically targeting the electron transport chain that cancer cells rely on for their accelerated growth and survival
    c. Makes them more sensitive to other treatments by weakening their natural defense mechanisms and resistance pathways, essentially creating a vulnerability that conventional cancer treatments can exploit

5. Methylene blue, a synthetic dye with a long history in medicine, has recently attracted attention for its potential role in cancer therapy. Methylene blue alone does not directly kill cancer cells in the way traditional chemotherapy drugs do. However, it shows notable anticancer effects when combined with light in a process called photodynamic therapy. Here’s how it works

    - Photodynamic Therapy (PDT): Methylene blue accumulates in tumor tissues. When exposed to light of a specific wavelength (typically in the 630–680 nm range), it produces reactive oxygen species (ROS) such as singlet oxygen and free radicals. These ROS damage cellular components like DNA, proteins, and lipids, ultimately causing cancer cells to die through apoptosis (programmed cell death) or necrosis (tissue death).
    - Selective Targeting: Some studies indicate methylene blue preferentially accumulates in cancer cells due to their higher metabolic rates and altered membrane properties, potentially sparing healthy cells from damage.

Mushrooms

Among 14,000 different species of mushrooms, approximately 700 species have been reported to exhibit medicinal properties. Recently, many studies have revealed the biological activities and the mechanisms of actions of mushroom compounds. Some mushrooms and their active compounds possess anticancer properties. Polysaccharides isolated from *Phellinus linteus* (PLP) suppressed tumor growth and pulmonary metastasis through stimulating the immune response, not directly toxic to cancer cells. Triterpenoids from *Ganoderma lucidum* showed anticancer properties. β-D-glucans from *Ganoderma lucidum* exhibited anticancer effect by inhibiting cancer cells, protecting normal cells against free radicals, and reducing normal cell damage. Their potential use as adjuncts in cancer therapy or as anticancer agents has emerged.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9504980/

Mustard Leaves

In addition to powerful antioxidants, which may have ***anticancer effects***, mustard greens are high in a group of beneficial plant compounds called glucosinolates. In test-tube studies, glucosinolates have been shown to help protect cells against DNA damage and prevent the growth of cancerous cells. However, these benefits haven't been studied in humans. Yet. So they say.

Similarly, a test-tube study of mustard leaf extract found protective effects against colon and lung cancers. Still, further study in humans is needed.

NAD+

NADH stands for nicotinamide adenine dinucleotide (NAD) + hydrogen (H). Does it slow cancer growth? Maybe for some cancers. It works as a strong biological antioxidant and stimulates the immune system and although NAD+ will be harmless to most normal

cells, it provides an additional source of energy for them that will additionally help to combat the wastage and weakness of cancer patients.

This is iffy! It can feed brain cancers and fight other cancers.

Cancer cells have special metabolic features that contribute to survival, proliferation, and metastasis. A focal point for these metabolic changes is nicotinamide adenine dinucleotide (NAD+), where NAD+ levels in cells need to be balanced for processes to function effectively.

The critical role NAD+ has in metabolism and cellular health has opened up the possibility of targeting it to kill off cancerous cells. This has been theorized to involve synthesis or degradation pathways, or both, which can deleteriously interrupt the cell's normal functioning. This could involve, for example, using SIRT1 activation to increase NAD+ degradation or using Nampt inhibitors to prevent biosynthesis of NAD+. There has been some success in identifying differences in NAD+ pathways of tumor cells and healthy cells, thereby allowing targeting only dangerous cells. FK866 is an inhibitor of Nampt in humans, and the subsequent reduction in NAD+ following its use can lead to apoptosis in tumor cells whereas normal healthy cells remain largely unharmed.

So then there's THIS: NAD+ supplement combined with PD-L1 antibody provides a novel therapeutic strategy for immunotherapy-resistant tumors. All cells need nicotinamide adenine dinucleotide (NAD), a bioenergetic molecule, to carry out essential functions and for survival. But NAD+ production (biosynthesis) is often elevated in human cancers, where it plays a critical role in the initiation, progression, and relapse of tumors. Yet, how NAD+ metabolism — the chemical reactions that make, process, and use NAD+ — plays a role in the regulation of tumor progression through its evasion of the body's immune response has remained largely unknown. They found that NAD+ replenishment sensitized the tumors to immunotherapy.

Flip a coin. This perhaps needs more research.

Where can you get this?

https://www.lifeextension.com/search#q=nad&t=coveo4A2453FD

https://www.nmn.com/news/nad-metabolism-promotes-tumor-development-and-sensitivity-to-anti-cancer-therapy

https://www.nature.com/articles/s42255-022-00586-w

https://siteman.wustl.edu/pathway-linked-slower-aging-also-fuels-brain-cancer/

https://www.news-medical.net/life-sciences/NAD2b-Metabolism-in-Cancer-and-Cancer-Therapies.aspx

https://www.immunitytherapycenter.com/therapies/nadh-iv/

Nicotine

Nicotine is claimed to cure glioblastoma, a form of brain tumor.

https://www.cancer.news/2023-06-20-ardis-nicotine-can-cure-tumors.html

Reishi Mushroom Extract

See Turkey Tail Mushroom

Scotch

1. Scotch contains Ellagic Acid (EA). EA is a naturally occurring polyphenolic constituent found in 46 different fruits and nuts such as grapes, pomegranate, red raspberry, strawberry, blueberry, and walnuts. According to some sources, “Ellagic acid prevents the binding of carcinogens to DNA and strengthens connective tissue, which may keep cancer cells from spreading”.

2. EA exhibits multiple anti-cancer effects, including inhibiting cancer cell proliferation, inducing apoptosis (programmed cell death), reducing angiogenesis (blood vessel formation that supports tumors), and limiting cell migration/metastasis. For example, a 2023 review in Biomolecules highlighted EA’s ability to target cancer hallmarks like sustained proliferative signaling, evasion of apoptosis, and genomic instability across various cancers (e.g., breast, colorectal, pancreatic, and liver).

Shilajit

Shilajit also shows promise in fighting against certain types of cancer cells. One study in 2020 found that shilajit helped inhibit the growth and spread of human breast cancer cells.

Another study from 2021 also found that shilajit can fight against bladder cancer cells and could have the potential to be used in treatments for bladder cancer. Additionally, a 2022 study concluded that shilajit could strengthen the effect of chemotherapy drugs in the treatment of liver cancer in rats.

Researchers noted that results show that shilajit has promising anticancer effects, but more human studies are needed.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8604984/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9358466/

Shilajit, which is known by different names such as salajeet, mumie, mumijo, mummiyo, and moomiyo, is a phytomineral diffusion found in sedimentary rocks and appears blackish-brown colored semi-solid matter with a sharp odor and pungent tang, formed due to the extended humification process of many plants (Agarwal et al., 2007, Carrasco-Gallardo et al., 2012a, Carrasco-Gallardo et al., 2012b). The chemical composition of shilajit is well characterized and found to contain 60–70 % humus (Agarwal et al., 2007, Aldakheel et al., 2021, Ghosal et al., 1976, Schepetkin et al., 2003). Shilajit has been used extensively in Indian traditional medicine Ayurveda to treat chronic diseases and a number of ailments due to its medicinal properties (Jafari et al., 2019, Schepetkin et al., 2003). Shilajit is shown to act as a chemotherapeutic agent against urinary bladder cancer and to induce apoptosis in human breast cancer cells Kloskowski et al., 2021, Rahmani Barouji et al., 2020b). Wound-induced inflammation and aspirin-induced gastric lesions were found to be abrogated in rats by shilajit treatment (Ghasemkhani et al., 2021, Kim et al., 2021). Shilajit activated peritoneal macrophages and splenocytes in tumor bearing murine during different tumor growth stages (Rahmani Barouji et al., 2020a). Shilajit is also attributed to a number of beneficial effects against neurological disorders including Alzheimer's disease (Bhattarai et al., 2016, Calfio et al., 2020, Carrasco-Gallardo et al., 2012a, Carrasco-Gallardo et al., 2012b). Importantly, shilajit has been shown to prevent liver damage in high-fat diet-induced non-alcoholic fatty liver disease and induce apoptosis in hepatic cancer cells (Ghezelbash et al., 2020, Pant et al., 2016).

Sulforaphane

Sulforaphane is a powerful activator of the NRF2 pathway. This is important because this affects the expression of over 200 genes including antioxidant and anti-inflammatory genes and genes that inactivate harmful compounds. The glucosinolate precursor of sulforaphane is glucoraphanin.

Sulforaphane has potent anti-cancer effects and can kill cancer cells. One mechanism is the deactivation of phase 1 biotranformation enzymes. These enzymes are responsible for converting procarcinogens into active carcinogens. Sulforaphane can also prevent DNA adducts which is a type of DNA damage that leads to cancers like lung and bladder and prostate cancers.

Where can we get this sulforaphane? Cruciferous vegetables. Broccoli, cauliflower, brussels sprouts, water cress, cabbage and microgreens (radish, broccoli, cabbages, etc). Broccoli sprouts (microgreens) can contain up to 100 times as much of glucoraphanin than mature broccoli plants making microgreens extraordinarily attractive.

Further, as a side note, broccoli sprout powder can improve serum triglycerides and oxidized LDL/LDL-cholesterol rations in type 2 diabetics.

Turkey Tail Mushroom Extract

1. Turkey tail is one of a variety of mushrooms that have been used for medicinal purposes for centuries in Asia. Also known as *Trametes versicolor* or *Coriolus versicolor*, it got its nickname because its vivid color patterns that appear similar to that of, yes, a turkey's tail. And while turkey tail mushrooms are purported to have numerous health benefits, one that particularly stands out is its reputation for boosting the immune system to fight off cancer.

2. Over the centuries, people in Asia have turned to more than 100Trusted Source different kinds of mushrooms in an effort to thwart cancer. And some evidence suggests that turkey tail mushrooms may have anticancer properties.

    - Antioxidants

        Turkey tail mushrooms are high in antioxidants like phenols. Antioxidants reduce or inhibit cellular damage caused by oxidative stress, a condition caused by an imbalance between antioxidants and reactive molecules called free radical molecules. And turkey tails don't just have high levels

of antioxidants — they seem to have numerous different kinds. In fact, one 2017 study found that turkey tail mushrooms have 35 different phenolic compounds.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6010034/

- Polysaccharopeptides

  These mushrooms also contain polysaccharopeptides, including krestin (PSK) and polysaccharide peptide (PSP), which may help boost your body's immune system. This is why so many people are interested in this mushroom's potential role in fighting cancer.

3. Turkey tail mushrooms contain compounds called polysaccharopeptide (PSP) and polysaccharide-K (PSK). PSP and PSK appear to inhibit the growth of cancer cells.

4. Researchers have isolated the PSK compound. In Japan, PSK is an approved adjuvant cancer treatment, according to the National Cancer Institute. However, the Food and Drug Administration (FDA) have not approved the product for this use in the U.S.

5. Turkey tail extracts have been used in Japan for decades as an adjuvant (additional) therapy for cancer treatments. These extracts are often combined with chemotherapy or radiation therapy to boost the efficacy of these treatments and improve outcomes. A review of 13 clinical trials found that cancer patients given turkey tail in combination with standard treatments lived longer than those who received chemotherapy alone.

6. "I have long recommended medicinal mushrooms to strengthen the body's natural defenses in persons with cancer. In fact, three other mushroom species, maitake, reishi and *Agaricus blazei*, have also shown promise as adjuncts in cancer treatments for their immune-enhancing and anti-tumor effects."

https://www.healthline.com/health/cancer/turkey-tail-mushroom-cancer#types-of-cancer

https://www.medicalnewstoday.com/articles/turkey-tail-mushroom#cancer-and-immunity

https://www.verywellhealth.com/turkey-tail-mushroom-6890534

https://www.drweil.com/health-wellness/body-mind-spirit/cancer/turkey-tail-mushrooms-for-cancer-treatment/

Walnuts

- Walnuts contain a substance called pedunculagin, which the body metabolizes into urolithins. Urolithins are compounds that bind to estrogen receptors and play a role in preventing breast cancer. Walnuts also contain Elligitannins, which are broken down to ellagic acid – a powerful anti-cancer compound.

Protocols

Manipulating pH Levels through Diet

1. Based on the scientific observation that cancer cells thrive in an acidic environment — meaning low pH levels — some people contend that highly "acidic" foods such as meat, cheese, and grain products raise the risk of cancer by reducing pH levels in the blood. They claim that eating "alkaline" foods such as fruit, green vegetables, and other plant-based products discourages the growth of cancer cells by raising blood pH levels and tout the benefits of the alkaline diet (also known as the alkaline ash diet or alkaline acid diet).

2. Cancer cells create an acidic microenvironment due to a high metabolic rate. Cancer cells can't live in a highly alkaline environment, but neither can healthy cells. Your body works to keep pH levels constant, and changing your diet is not going to substantially change the pH levels of your blood, which are tightly regulated by the kidneys and lungs regardless of foods consumed.

3. The pH of bodily fluids, such as saliva and urine, does change temporarily depending on the foods you eat, but that doesn't affect blood pH levels (or, hence, the environment of cancer cells in the body). In fact, any significant deviation in blood pH levels can cause serious, even life-threatening conditions known as acidosis (low pH) or alkalosis (high pH)

4. There is no clear evidence to support the notion that altering your diet can alter blood pH levels, let alone impact cancer growth," Dr. Hou states. "The science

behind this has been misconstrued. Modifying the pH of your saliva doesn't influence the pH of your blood. Some patients may attempt to adjust their blood pH using chemicals, but this can pose serious risks."

5. But… see "Alkalizing the Body"

Fenben and Ivermectin

These particular medicines appear to be the most promising, either singly or taken together.

Ivermectin

Ivermectin cures cancer. It has been proven to be effective in most every kind of cancer (potentially not cancers caused by ionizing radiation wherein genes have been damaged).

Ivermectin appears to be effective against the following cancers: lung, gastric, digestive, breast, urinary, blood cancers, hematological, ovarian, cervical, brain, skin, and colorectal cancers.

Ivermectin has been shown to possess anti-inflammation, anti-virus, and antitumor properties and has been found to potentially inhibit colorectal cancer cell growth according to the NIH.

https://pubmed.ncbi.nlm.nih.gov/34483925/

Several studies showed that the ivermectin has antitumor effects on a variety of cancer cells and present studies show effectiveness and an anticancer efficacy in pancreatic cancer. We found that the anticancer effect of ivermectin in combination with gemcitabine on pancreatic cancer is more effective than gemcitabine alone.

https://aacrjournals.org/cancerres/article/82/12_Supplement/2320/701043/Abstract-2320-Ivermectin-suppresses-pancreatic

Ivermectin has powerful antitumor effects, including the inhibition of proliferation, metastasis, and angiogenic activity, in a variety of cancer cells. This may be related to the regulation of multiple signaling pathways by ivermectin through PAK1 kinase. On the other hand, ivermectin promotes programmed cancer cell death, including apoptosis, autophagy and pyroptosis. Ivermectin induces apoptosis and autophagy is mutually regulated. Interestingly, ivermectin can also inhibit tumor stem cells and reverse

multidrug resistance and exerts the optimal effect when used in combination with other chemotherapy drugs.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7505114/

In another NIH study: The breast MDA-MB-231, MDA-MB-468, and MCF-7, and the ovarian SKOV-3, were the most sensitive cancer cell lines to ivermectin. Conversely, the prostate cancer cell line DU145 was the most resistant to its use. In the most sensitive cells, ivermectin induced cell cycle arrest at G_0-G_1 phase, with modulation of proteins associated with cell cycle control. Furthermore, ivermectin was synergistic with docetaxel, cyclophosphamide and tamoxifen. Ivermectin reduced both cell viability and colony formation capacity in the stem cell-enriched population as compared with the parental one. Finally, in tumor-bearing mice ivermectin successfully reduced both tumor size and weight.

https://pubmed.ncbi.nlm.nih.gov/32474842/

Today, ivermectin is continuing to surprise and excite scientists, offering more and more promise to help improve global public health by treating a diverse range of diseases, with its unexpected potential as an antibacterial, antiviral and anti-cancer agent being particularly extraordinary.

https://www.nature.com/articles/ja201711

There are hundreds of studies that clearly show that ivermectin is effective in inducing cancer cell apoptosis in most all cancers. Why this is not a front line weapon fighting cancer is to be asked. Your life is being traded for Big Pharma money and that is, in my opinion, a crime against humanity.

Fenbendazole (Fenben)

Fenbendazole, also referred to as “fenben”, is a medication used to treat parasites and worms (roundworms, hookworms, whipworms, and some tapeworms) in animals (common brand names are Pancur and Safe-Guard). However, it is also being used by humans in a cancer treatment method known as the Joe Tippens Protocol.

Fenbendazole is a benzimidazole, a class of microtubule-destabilizing agents.

Drugs that are already clinically approved or experimentally tested for conditions other than cancer, but are found to possess previously unrecognized cytotoxicity towards malignant cells, may serve as fitting anti-cancer candidates. Methyl N-(6-phenylsulfanyl-1H benzimidazol-2-yl) carbamate [Fenbendazole, FZ], a benzimidazole compound, is a

safe and inexpensive anthelmintic drug possessing an efficient anti-proliferative activity. In our earlier work, we reported a potent growth-inhibitory activity of FZ caused partially by impairment of proteasomal function. Here, we show that FZ demonstrates moderate affinity for mammalian tubulin and **exerts cytotoxicity to human cancer cells** at micromolar concentrations.

https://pubmed.ncbi.nlm.nih.gov/30093705/

https://www.laurasmercantile.com/joe-tippens-cancer-protocol/fenbendazole-and-cancer-is-fenben-the-cure/

Fenbendazole is known to have a high safety margin and most species tolerate it very well. It has very low degree of toxicity and high degree of safety in experimental animals.

fenbendazole has been found to be effective in the treatment of a broad range of human tumors in a number of recent research and publications that have been sent to peer review. Here are a few factors that may explain why fenbendazole is effective against cancer, as shown by research.

Several investigations and published data have shown fenbendazole's efficacy as a radical treatment for human malignancies. Treatment with fenbendazole may slow the progression of large B-cell lymphoma, renal cell carcinoma, bladder cancer, or metastatic sickness in patients.

https://baltimorepostexaminer.com/human-patients-are-given-fenbendazole-as-a-therapy-for-cancer/2022/10/15

Intensive treatments with fenbendazole were toxic to EMT6 cells in vitro; toxicity increased with incubation time and under conditions of severe hypoxia.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3580766/

Research shows that Fenbendazole, commonly used as a canine deworming drug in veterinary practice, can block sugar uptake, cause apoptosis in cancer cells, reduce tumour size and even help overcome cancer drug resistance, making it another 'repurposed drug' that can be used to treat cancer. Back in 2014, a team of researchers at Johns Hopkins Hospital were trying to grow tumors by injection in laboratory mice. Except with one group of mice, they failed. The reason they discovered, was that these mice had been de-wormed with an anti-parasitic drug called fenbendazole. Further research revealed that this anti-cancer activity had previously been reported.

https://www.canceractive.com/article/antiworm-drug%20for%20animals%20effective%20at%20killing%20cancer%20cells

When ivermectin and fenbendazole are taken together, they deliver a one-two punch to cancer. When combined with other anti-cancer nutrients such as quercetin, vitamins C and D, and curcumin, the effects are even more pronounced.

https://www.brightworkresearch.com/the-cancers-that-ivermectin-has-been-demonstrated-to-be-effective/

See PROTOCOLS: Joe Tippens Cancer Protocol

siRNA Therapy

Small interfering RNA (siRNA), sometimes known as short interfering RNA or silencing RNA, is a class of double-stranded RNA at first non-coding RNA molecules, typically 20-24 (normally 21) base pairs in length, similar to miRNA, and operating within the RNA interference (RNAi) pathway. It interferes with the expression of specific genes with complementary nucleotide sequences by degrading mRNA after transcription, preventing translation.

One of the most important advances in biology has been the discovery that is able to regulate the expression of genes, by a phenomenon known as RNAi (RNA interference). The discovery of RNAi, first in plants and *Caenorhabditis elegans* and later in mammalian cells, led to the emergence of a transformative view in biomedical research. siRNA has gained attention as a potential therapeutic reagent due to its ability to inhibit specific genes in many genetic diseases. siRNAs can be used as tools to study single gene function both in vivo and in-vitro and are an attractive new class of therapeutics, especially against undruggable targets for the **treatment of cancer** and other diseases.

siRNAs may represent one of the next frontiers in medical science. They are currently being evaluated as to how they can be exploited in the drug development process and as therapeutic agents. If the challenges that currently exist in siRNA development and delivery can be addressed, siRNAs could be used to target virtually any gene for therapeutic intervention.

“Small interfering RNAs (siRNAs) have been considered one of the most noteworthy developments which are able to regulate gene expression following a process known as RNA interference (RNAi). RNAi is a post-transcriptional mechanism that involves the inhibition of gene expression through promoting cleavage on a specific area of a target messenger RNA (mRNA). This technology has shown promising therapeutic results for a good number of diseases, especially in cancer.” However, more research is required.

Recent clinical trials on synthetic siRNA-mediated nanotherapeutics have demonstrated promising results towards the treatment of various carcinomas.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5542916/

https://en.wikipedia.org/wiki/Small_interfering_RNA

https://www.news-medical.net/life-sciences/What-is-SiRNA.aspx

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6504672/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8309123/

Alkalizing the Body

Certain foods leave behind acidic "ash" byproducts after you digest them. Other foods leave alkaline ash byproducts after digestion. According to this theory, many diseases breed in more acidic conditions. Thus, you'd want to focus on these "alkalizing foods" to attain good health.

Cancer cells themselves generate acidic waste. This waste further promotes cancer, and metastasis. When you "alkalize" the body (within reason), your blood stays in the normal pH range. But it helps the fluids around your cells return to a normal pH, instead of the acidic pH caused by the cancer itself. Helping your body neutralize cancer generated acidity (by alkalizing) may help to combat cancer metastasis.

So helping the body neutralize this cancer generated acidity is an important factor…. The benefits of this have been shown by researchers in cancer afflicted mice [16]. These mice were fed either with plain water, or water with sodium bicarbonate (baking soda) which is an alkalizing substance.

When baking soda was added to their water, the tumor generated acid was neutralized, and the pH of the tumor's extracellular fluid became normal. It also blocked tumor metastasis, and reduced the cancer's ability to spread to the lymphatic system. And overall, this was a safe process as the pH of normal tissues, and the rest of the body remained normal.

Though this study used baking soda as the alkalizing factor, many natural alkaline mineral waters are also very rich in bicarbonate. Thus alkalizing factors in your diet, can help your body neutralize these tumor generated acids more effectively.

"Alkalizing the body" happens in the "interstitial fluids," via the blood… Not in the blood itself.

Note: Manipulating your pH can potentially be dangerous, so talk to your doctor first before starting any such strategy.

Baking Soda

To increase the pH of the body, it's recommended to use a ¼ teaspoon of baking soda in one and ½ cup glass of water. Take on an empty stomach in the morning and again in the evening.

Lemon Juice

This is as alkaline-making as baking soda. Drink glass of water with juice form ½ a lemon. Consume twice a day, once in the morning, once in the evening. Lemon juice increases alkalinity in the body.

6-thio-2'-deoxyguanosine (THIO)

THIO (aka 6-thio-dG, 6-thio-2'-deoxyguanosine) is a potentially first-in-class small molecule that is the only direct telomere targeting agent currently in clinical development. Telomerase is present in >85% of human cancers and contributes significantly to the proliferation and reproductive immortality of cancer cells. THIO's *in vitro* activity has been studied in models of several tumor types with active telomerase.

THIO is recognized by telomerase and incorporated into telomeres in cancer cells. Once incorporated, THIO compromises the telomere structure and function, leading to 'uncapping' of the chromosome ends and thus resulting in rapid tumor cell death.

Low doses of THIO, followed by anti-PD-L1 or anti-PD1 therapy, completely eliminated advanced tumors in preclinical models *in vivo*, and produced cancer cell specific immune memory, where the immune system continued to be active against the cancer cells after extended periods of time, with no additional treatment. These results demonstrate how the THIO-produced telomere stress increases innate sensing and adaptive anti-tumor immunity, which provides a strong rationale for sequentially combining our telomere-targeted therapy with immunotherapy (Mender et al., 2020).

In testing, THIO was effective in the majority of human and mouse glioma cell lines with no obvious toxicity against normal astrocytes. THIO as a monotherapy demonstrated efficacy in three glioma cell lines that had acquired resistance to temozolomide. In addition, THIO showed efficacy in four human glioma cell lines grown as neurospheres by inducing apoptotic cell death. Mechanistically, THIO induced telomeric DNA damage not only in glioma cell lines but also in PDX tumor specimens.

https://maiabiotech.com/pipeline/thio/

https://aacrjournals.org/clincancerres/article/27/24/6800/675168/A-Modified-Nucleoside-6-Thio-2-Deoxyguanosine

https://pubmed.ncbi.nlm.nih.gov/34593527/

Human Epiderma Growth Factor Receptor 2 (HER2) protein

Trastuzumab: One promising drug target in endometrial cancer is the Human Epidermal Growth Factor Receptor 2 (HER2) protein (Grushko 2008). This receptor, which transverses the outside surface of cells (ie, plasma membrane), is critical for growth signaling. In the case of certain subsets of endometrial cancer, the ***HER2*** gene gets copied excessively, and the ensuing overabundance of HER2 protein has independent prognostic significance (Hetzel 1992; Morrison 2006; Grushko 2008; Slomovitz 2004). By sequencing the DNA of endometrial cancer patients and using additional cellular and molecular biology tools, researchers and clinicians are now able to determine which endometrial cancer patients would benefit from treatment with trastuzumab (Herceptin®), a synthetic antibody that targets HER2 (Santin 2008).

Ivermectin, Fenbendazole, Vit C and Sodium Bicarb Protocol or Adam Gaertner's Protocol

Can two cheaps meds, one vitamin and baking soda cure cancer?

Cancer rates have skyrocketed in the past century for a number of reasons not least of which is the incredibly large number of toxins spewed into the environment and incorporated into our food supplies. And now with most of humanity exposed to the cancerous spike protein there is likely to be even further acceleration. Those exposed to the fallout from the East Palestine Ohio train wreck, which may spread quite widely along the eastern seaboard, are particularly at risk of developing cancer in the coming months and years from the ignition of the vinyl chloride cargo and it's toxic breakdown products, especially dioxins. This is not meant to be an exhaustive treatise on the prevention and treatment of cancer, but only to explain as simply as possible the scientific theory behind Adam Gaertner's anti-cancer protocol, which combines 4 simple and cheap therapies that have been separately used and studied for a wide variety of human cancers with mixed results, but together have powerful synergistic effects that may, it is hoped, effectively eliminate any cancer. And at the end his simple 3 week protocol is included.

Before we begin I also have to say that I have seen many people beat end stage cancer using drastic elimination diets and a modifed Gerson juicing protocol. And of course I have known many who decided on chemotherapy, radiation and surgery. Both paths are extremely difficult and require a lot of commitment and sacrifice. Perhaps the following protocol can help more people more easily overcome cancer.

And after cancer is beaten, it pays to address the root causes because those who overcome cancer are often prone to an even more aggressive recurrence, especially if they persist in the unhealthy exposures and lifestyle habits that triggered it in the first place

Fenbendazole: Fenbendazole is not FDA approved for use in humans, but is commonly used as an antiparasitic medication in animals, and has been studied in some human cancer studies, where it appears to be safe. It has multiple effects against cancer cells. Most significantly, it can lead to the influence the MAPK pathway to activate cellular suicide or apoptosis.

It destabilizes cellular protein structures called microtubules that are essential to cell division. It also disrupts cancer cell energy production by blocking the breakdown of sugar (glycolysis) which is like crude oil for cells and also blocking the ability of mitochondria, the energy refining factories of cells from using the crude oil to produce the cellular equivalent of electricity, i.e. ATP - the universal bioenergy molecule.

This collection of actions **may not** be applicable for all cancers, however a sizable proportion are affected; as such metabolic disruption occurs which then leads to production of cellular stress signals.

An important manifestation of this is **CD80**, a costimulatory signal that in combination with T Cell Receptor binding to a foreign antigen, activates CD8 T-cells; alternatively if the antigen is self, it will inhibit them, as well as activate dormant NK cells in the area. So what's happening here is if the cancer cell has non self antigens (those devil horns) the stress signals (failed lie detector test) will activate CD8 cytotoxic T cells to kill it. If however the cancer cell shows a normal self antigen to the T cell along with the stress signals, the T cell will stand down but the same stress signals may still activate nearby NK cells. Thereby some of the tumor cells will be destroyed releasing many new antigens into the area, both self and non self. These new antigens will be recognized by nearby immune cells and train them to better detect the remaining tumor cells. This triggers a far more robust immune activation and ends up in effectively nuking the area - destroying all remaining tumor as well as some friendlies and innocent bystanders mixed up in the fray.

Sodium Bicarbonate: The mechanism of sodium bicarbonate action is easy to understand, based on the Warburg effect: decreasing acidity (increasing the pH or alkalinity) outside the cancer cells impairs their ability to maintain a highly alkaline

environment within themselves. That alters cancer cells' metabolism, prompting similar immune system reactions as previously discussed and igniting further cascades.

Unfortunately, if sodium bicarbonate is used without other agents from the protocol, ***tumors promptly become resistant*** and cancer-fighting benefits decrease to mere prolongation of life expectancy instead of complete elimination.

Vitamin C: When ascorbic acid is used in large quantities, along with the reduced form dehydroascorbate (DHA), it induces intense oxidative stress within cancerous cells; if that stress is insufficient to destroy the cell outright, it triggers the release of numerous cytokines, including our friend CD80, which initiates the cascade described above involving CD8 cytotoxic T cells. Not all forms of cancer are responsive to this pathway **and sodium bicarbonate is capable of directly counteracting it.** As a potent immunomodulator vitamin C even has the potential to disrupt the inflammatory response involved in targeting a significant-sized tumor.

So it's important to carefully balance the two options, and not use both simultaneously. The alkalization brought about by sodium bicarbonate won't last for particularly long; therefore, employing one after another in alternating fashion will likely provide more benefits than using just one of them at a time.

The following are four therapeutic pathways that, when used together, cause cancerous cells to undergo both apoptosis and loss of immune evasion features so the immune system can identify and attack them.

Ivermectin inhibits mutant checkpoint and cascade transduction proteins, particularly PI3K, reduces TAM anti-apoptotic signaling, and increases expression of the tumor suppressor p53 by binding to the hsp90 protein.

In addition to modulating the MAPK pathway, fenbendazole destabilizes microtubules, inhibits glycolytic metabolism, inhibits mitochondrial oxidative phosphorylation, and reduces anti-apoptotic PD-L1 expression feedback loops.

Through alkalization of the cytosolic tumor environment, sodium bicarbonate induces metabolic stress.

Vitamin C triggers oxidative stress and cytokine production.

In this method, cytosolic apoptosis signaling cascades are promoted, and effector CD8 and NK cells are infiltrated into a tumor mass through adaptive recognition of foreign antigens and inhibition of anti-apoptotic pathways in order to achieve complete remission through both self-destruct signaling pathways as well as inflammatory immune destruction of cancerous cells.

The Protocol: Unlike most traditional cytotoxic cancer therapies that destroy both cancer cells as well as regular cells and especially the body's immune system cells, this protocol stimulates the body's own innate and adaptive immune system to fight off cancer.

This protocol **should not** be used in combination with most mainstream cancer treatments, such as chemotherapy or radiotherapy, due to their ability to impair the immune system that the protocol depends on.

Day 1:

Ivermectin: 1 mg/kg by mouth

Fenbendazole: 1000mg by mouth

Sodium Bicarbonate: 1 tsp morning and evening dissolved in 1 quart of water

Day 2:

Ascorbic acid: 50 mg/kg by mouth, two doses, 8 hours apart *or* 20g IV, once

Day 3:

Repeat Day 1

Day 4:

Repeat Day 2

Days 5 to 10:

Fenbendazole, 200mg by mouth daily

Alternate sodium bicarbonate and ascorbic acid every other day beginning with sodium bicarb on day 5, then vitamin C on day 6, etc.

Day 11:

Ivermectin: 1 mg/kg by mouth

Fenbendazole: 1000 mg by mouth

Sodium Bicarbonate: 1 tsp morning and evening dissolved in 1 quart of water

Days 12 to 20:

Sodium Bicarbonate: 1 tsp morning and evening dissolved in 1 quart of water

Day 20:

Imaging: Check progress. Significant reduction or complete elimination of tumor mass should have occurred by this time, if not repeat the protocol.

NMN and Cancer: What You Need to Know

NMN, or Nicotinamide Mononucleotide, has been a hot topic in the world of cancer research.

In this article, we will explore the relationship between NMN and cancer cells, the potential impact on normal and cancer cells, and debunk the myth surrounding its role in accelerating cancer growth. We will also delve into how NMN could enhance cancer therapy, share insights from longevity studies in mice, and discuss how NMN may reduce the risk of cancer.

Nicotinamide mononucleotide (**NMN**) serves as a precursor to nicotinamide adenine dinucleotide (**NAD**), a crucial coenzyme essential for cellular energy synthesis and metabolism. Recent studies have initiated investigations into the potential implications of NMN on cancer, specifically focusing on its influence on the growth and proliferation of cancer cells and tumors.

Research on the impact of **Nicotinamide Mononucleotide (NMN)** on cancer cells has yielded diverse results, with findings spanning from potential **inhibitory effects on cell proliferation** to apprehensions regarding its involvement in **tumor growth**.

Nicotinamide Mononucleotide (NMN) has demonstrated various health benefits for normal cells, encompassing enhanced cellular production, improved DNA repair mechanisms, and overall enhanced metabolic function.

Research studies have underscored the critical role of NMN in promoting DNA repair processes within normal cells, thereby advocating genomic integrity and mitigating the risk of DNA damage-induced mutations. NMN has been evidenced to augment the activity of sirtuins, key enzymes in the regulation of metabolic pathways and the enhancement of cellular energy production.

Clinical trials have validated the positive effects of NMN supplementation on cellular health, manifesting enhancements in cellular function, resilience, and overall vitality. This expanding body of scientific investigation emphasizes the potential utility of NMN as a valuable asset in bolstering cellular health and promoting longevity.

The potential impact of NMN on **cancer cells** is intricate and diverse, as indicated by various studies that propose it may either impede or facilitate tumor growth depending on the circumstances.

For instance, a study published in the **Journal of Cancer Research and Therapeutics** revealed that NMN exhibited inhibitory effects on **breast cancer cells** by triggering **apoptosis**, a mechanism of programmed cell death. Conversely, research outlined in the **Journal of Experimental & Clinical Cancer Research** demonstrated how NMN could stimulate the proliferation of specific cancer cell types, such as **melanoma**, by enhancing their energy metabolism.

Essential factors such as the **dosage of NMN administered** and the specific types of cancer being targeted are pivotal in determining whether NMN displays **anti-cancer** or **pro-cancer** characteristics.

The suggestion that **NMN promotes cancer growth** is a misconception that has been subject to thorough examination and rebuttal through recent research investigations, emphasizing the necessity for a nuanced comprehension of its impacts.

A study published in the **2020 issue of the journal 'Cell Reports'** discovered that **NMN supplementation** may, in fact, impede the development of certain categories of cancer cells via the precise targeting of metabolic pathways that are implicated in cancer advancement.

This serves to underscore the intricacy of NMN's influence on cancer and accentuates the significance of taking into account the particular circumstances under which it is

administered. The dosage of NMN plays a critical role in the interpretation of its effects, as both insufficient and excessive amounts of NMN can yield diverse results on cellular functions and metabolic processes.

Recent studies indicate that Nicotinamide Mononucleotide (NMN) may have a supportive function in augmenting cancer therapy through the activation of critical proteins such as **SIRT1, AMPK, and ACC**, which participate in DNA repair and metabolic regulation.

By selectively targeting these proteins, NMN has the potential to enhance the efficacy of traditional cancer treatments. For instance, **SIRT1** is recognized for its involvement in enhancing DNA stability and repair mechanisms, thereby helping with the prevention of genetic mutations that can contribute to the advancement of cancer. The activation of **AMPK** by NMN can aid in regulating cellular energy equilibrium and inhibiting abnormal cell proliferation, while **ACC** activation supports lipid metabolism and promotes healthy cellular growth, further reinforcing the body's resilience against cancer progression.

Longevity studies conducted in mice have yielded valuable insights into the potential anti-aging properties of NMN. These studies have revealed enhancements in metabolic health, improved DNA repair mechanisms, and even extended lifespan.

The research has highlighted the significant role of NMN supplementation in activating sirtuins, which are recognized as longevity genes responsible for regulating cellular health and lifespan. By augmenting mitochondrial function, NMN has the capacity to enhance energy production and support overall cellular function. Scientific investigations have indicated that NMN can aid in addressing age-related deterioration, reducing inflammation, and providing protection against oxidative stress.

The promising results from these studies suggest that NMN supplementation could have substantial implications for human health. It may offer opportunities to mitigate the effects of aging and potentially contribute to cancer prevention efforts.

Mitigating the risk of cancer with NMN involves capitalizing on its health benefits, including **enhanced DNA repair** and **metabolic functionality**, to establish a proactive strategy for cancer prevention in human health.

Nicotinamide mononucleotide, commonly known as NMN, has demonstrated potential in numerous clinical trials for its ability to boost **DNA repair mechanisms**, which are pivotal in averting the accumulation of mutations that have the potential to initiate cancer. Studies indicate that NMN's capacity to promote healthy metabolic function can aid in upholding cellular homeostasis and diminishing the likelihood of metabolic disorders that are correlated with an elevated predisposition to specific cancer types. These research findings underscore the diverse ways in which NMN could potentially aid in reducing cancer risk by influencing cellular health and overall wellness.

https://www.cochrane-handbook.org/nmn-and-cancer-what-you-need-to-know/

Graviola IV Treatment

Scientifically known as *Annona* muricate, Graviola is a type of evergreen tree that produces edible soursop fruit that is used in sweets. Studies suggest that Graviola naturally presents powerful apoptosis-inducing stimulation to cancer cells- Apoptosis is the normal process of programmed cell death.

The main active component in Graviola is acetogenin, which has been studied for its effects on cancer. Research has found that acetogenins inhibit the respiratory chain of tumor cells, a process that is involved in tumor cell metabolism, apoptosis, and autophagy. Acetogenins possess anti-tumor activity by inducing cell death and inhibiting growth in tumor cells. The principal interest in this plant is because of its strong anticancer effects. Although it is effective for a number of medical conditions, it is its anti-tumor effect that is of the most interest. This plant might be a cancer remedy for cancers of all types. Graviola is also a broad spectrum antimicrobial agent for both bacterial and fungal infections, is effective against internal parasites and worms, lowers high blood pressure and is used for depression, stress and nervous disorders.

Overall, there is no full absolute proof to show that Graviola works as a cure for cancer but in laboratory studies, Graviola extracts can kill some types of liver and breast cancer cells that are resistant to particular chemotherapy drugs.

Graviola is typically administered via intravenous infusion, allowing the clinician to introduce the Graviola extract directly into the bloodstream.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4319340/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6657400/

Your Emotions and Cancer

Is it possible for us to “tell” the brain to boost the body’s immune response against cancer tumors? Researchers believe that the answer is “yes,” and that it can be done by manipulating the activity of the brain’s reward system. Studies have found out that

stress management, self-awareness and living a meaningful life improves overall healing.

"Several researchers, including Prof. David Spiegel of the Stanford University School of Medicine [in California], have shown that an improvement in the patient's emotional state may affect the course of the disease." But, "it was not clear how this happened." **E**xisting studies have suggested that activity in the brain's reward system can help regulate the way in which the immune system functions.

Ohio State University College of Medicine confirmed that negative emotions worsened future health risks and existing health conditions. Most conventional doctors mock any reference to mind over matter or the power of human thought on human health. It's taken decades for the science about the devastating impact of stress on your body to even gain recognition.

Now it's considered an undisputed fact that stress leads to chronic inflammation leads to serious conditions and disease that can destroy your life. Still, the refusal to believe (or even consider) that your **thoughts have the ability to either hurt you or heal you** seems to be a silly concept in most medical circles. It's chalked up to "quackery" and "pseudoscience" that has no real place in the discussion about stopping disease.

Nothing could be further from the truth. Emotions do affect your health. Emotions and cancer are linked. Negative emotions that are out of control will eventually make you sick – or keep you sick.

https://alternative-doctor.com/how-are-emotions-and-cancer-connected/

https://www.medicalnewstoday.com/articles/322497

Hyperbaric Oxygen Therapy

This treatment involves giving the body extra oxygen. During treatment the patient breathes in pure (100%) oxygen under increased pressure inside of a hyperbaric chamber. By increasing the amount of oxygen into the patients' bloodstream it makes it easier to kill cancer cells while also activating the healing process in the body. Cancer tumors are well known to be hypoxic. In this low oxygen state, they thrive, increasing cancer cell survival, driving metastasis and angiogenesis and glycolytic metabolism.

Hypoxia is a critical hallmark of solid tumors and involves enhanced cell survival, angiogenesis, glycolytic metabolism, and metastasis. Hyperbaric oxygen (HBO)

treatment has for centuries been used to improve or cure disorders involving hypoxia and ischemia, by enhancing the amount of dissolved oxygen in the plasma and thereby increasing O_2 delivery to the tissue. Studies on HBO and cancer have up to recently focused on whether enhanced oxygen acts as a cancer promoter or not. As oxygen is believed to be required for all the major processes of wound healing, one feared that the effects of HBO would be applicable to cancer tissue as well and promote cancer growth. Nevertheless, two systematic reviews on HBO and cancer have concluded that the use of HBO in patients with malignancies is considered safe. There is evidence that implies that HBO might have tumor-inhibitory effects in certain cancer subtypes, and we thus strongly believe that we need to expand our knowledge on the effect and the mechanisms behind tumor oxygenation.

Others report that hyperbaric oxygen suppressed tumor progression through the improvement of tumor hypoxia and induction of tumor apoptosis in A549-cell-transferred lung cancer. In an oxygen deficit condition, tumor cells are more progressive and can be metastatic. HBOT increasing in oxygen partial pressure may benefit tumor suppression.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3510426/

https://www.nature.com/articles/s41598-021-91454-2#Sec22

https://www.immunitytherapycenter.com/therapies/hyperbaric-oxygen-therapy/

https://www.canceractive.com/article/hyperbaric-oxygen-in-cancer-treatment

Cartilage (Bovine and Shark) Treatments

Cartilage taken from cows and sharks has been studied for anti-cancer effects. Studies show that both bovine and shark cartilage contain a compound that inhibits the formation of new blood vessels, which could shrink tumors.

When bovine cartilage and/or shark cartilage is broken down, it releases compounds that kill cancer cells, increases natural immune function to kill cancer cells, and create substances that prevent the growth of blood vessels that feed tumors. Bovine and shark cartilage extracts are available in varying forms. Injections and intravenous infusions of bovine or shark cartilage introduce the treatment directly into the bloodstream, which bypasses potential barriers, including breakdown from digestive acids.

Bovine (cow) cartilage and shark cartilage have been studied as treatments for people with cancer and other medical conditions for more than 30 years. Three principal mechanisms of action have been proposed to explain the antitumor potential of cartilage: (1) it kills cancer cells directly; (2) it stimulates the immune system; and (3) it blocks the formation of new blood vessels (angiogenesis), which tumors need for

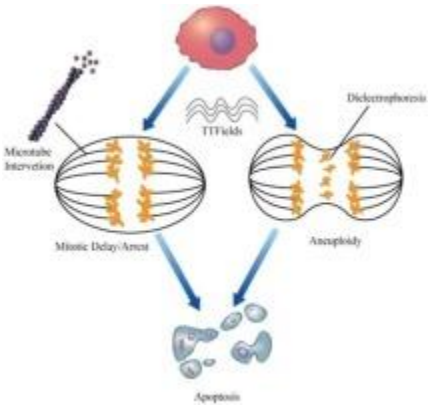
unrestricted growth. At least three different inhibitors of angiogenesis have been identified in bovine cartilage, and two angiogenesis inhibitors have been purified from shark cartilage.

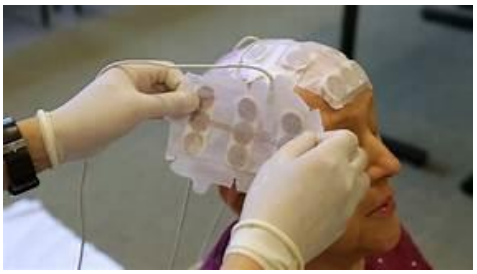
The absence of blood vessels in cartilage led to the hypothesis that cartilage cells (also known as chondrocytes) produce one or more substances that inhibit blood vessel formation. The formation of new blood vessels or angiogenesis is necessary for tumors to grow larger than a few millimeters in diameter (i.e., larger than approximately 100,000 to 1,000,000 cells) because tumors, like normal tissues, must obtain most of their oxygen and nutrients from blood. A developing tumor, therefore, cannot continue to grow unless it establishes connections to the circulatory system of its host. It has been reported that tumors can initiate the process of angiogenesis when they contain as few as 100 cells. Inhibition of angiogenesis at this early stage may, in some instances, lead to complete tumor regression. The possibility that cartilage could be a source of one or more types of angiogenesis inhibitors for the treatment of cancer has prompted much research.

See: Anti-angiogenic Drugs. Anti-Angiogenic foods.

https://www.ncbi.nlm.nih.gov/books/NBK65762/

Tumor Treating Fields (TTF)





Tumor treating fields (TTF) are a new type of cancer treatment. Unlike many therapies, however, this treatment **is non-invasive** and essentially **side-effect free** with the exception of mild skin irritation.

TTFields is a novel cancer therapeutic modality based on the principle that alternating electric fields, when applied at specific frequencies, can interrupt cancer cell division and cause cancer cell death. The TTFields array placement is designed according to the optimal temporal and spatial qualities for opposing tumor growth within the body and anatomical data. TTFields therapy is a noninvasive distribution of mild low intensity, intermediate frequency, alternating electrical fields that are transduced through the skin and disrupt mitosis and cell division in cancer cells. The mechanisms of TTFields involve mitosis inhibition, disruption, and genetic irregularities that ultimately cause cell death. Additionally, unlike chemotherapy, TTFields administration is locally directed minimizing the exposure of the body.

NOTE: TTFields therapy is U.S. Food and Drug Administration **approved** for the treatment of glioblastoma multiforme, the most common and aggressive primary human brain cancer.

Side note, my wife's oncologists at the Cleveland Clinic (Taussig Cancer Center) had never heard of this.

https://www.sciencedirect.com/science/article/abs/pii/S104084282100322X

https://pubmed.ncbi.nlm.nih.gov/29993870/

https://www.verywellhealth.com/tumor-treating-fields-ttf-4584149

https://www.nature.com/articles/s41416-020-01136-5

TEDx: https://www.ted.com/talks/bill_doyle_treating_cancer_with_electric_fields

Temsirolimus and the Inhibition of Endometrial Cancer Cell Metabolism

mTOR is a key protein involved in cellular growth, aging, survival, and metabolism (Hay 2004; Hung 2012; Johnson 2013). Cancer cells have developed a variety of means to modulate mTOR activity to help drive their high growth and metabolic rate. Given the links between cellular growth and metabolism on one hand, and cancer development on the other, inhibitors of mTOR have been hypothesized to have potent anti-cancer properties, and specific compounds showed positive responses in clinical trials (Faivre 2006). With respect to endometrial cancer, the mTOR inhibitor temsirolimus (Torisel®) was shown to have significant anti-cancer properties; response rates as high as 83% were reported in a phase II clinical trial involving women with recurrent or metastatic endometrial cancer (Oza 2011; Suh 2013).

https://www.lifeextension.com/protocols/cancer/uterine-endometrial-cancer

Photodynamic therapy

Photodynamic therapy uses a drug that is activated by light, called a photosensitizer or photosensitizing agent, to kill cancer cells. The light can come from a laser or other source, such as LEDs. Photodynamic therapy is also called PDT.

Photodynamic therapy is most often used as a local treatment, which means it treats a specific part of the body.

https://www.cancer.gov/about-cancer/treatment/types/photodynamic-therapy

Joe Tippens Cancer Protocol

The Joe Tippens Cancer Protocol, or Fenbendazole Cancer Treatment, suggests a dose of 222 mg per day (1 gram of Panacur C), seven days a week. The medication is available in oral granules or as a liquid suspension and is given by mouth. If you choose to use the liquid form, it is important to make sure you measure the dosage correctly and carefully. It is recommended that the fenbendazole be taken with food to avoid any gastrointestinal upset. Although there have been limited studies on the cancer-fighting characteristics of fenbendazole, it appears to be tolerated well by humans.

- **Fenbendazole**: 222 mg per day seven days a week with food.
- **Curcumin**: 600 mg (2 pills per day) of bio-available curcumin 7 days a week.
- **CBD oil:** 25 mg sublingually (under the tongue) seven days a week.
- **Vitamin E** (optional): 400-800mg per day, seven days a week.

We would suggest patients might add both **Berberine** (3 x 500 mg) and **Quercetin** (2 x 500 mg) to enhance the anti-cancer, sugar reducing and antiinflammatory effects.

Hormone Therapy

Hormone therapy is a cancer treatment that slows or stops the growth of cancer that uses hormones to grow. Hormone therapy is also called hormonal therapy, hormone treatment, or endocrine therapy

https://www.cancer.gov/about-cancer/treatment/types/hormone-therapy

Hyperthermia

Hyperthermia is a type of treatment in which body tissue is heated to as high as 113 °F to help damage and kill cancer cells with little or no harm to normal tissue. Hyperthermia to treat cancer is also called thermal therapy, thermal ablation, or thermotherapy.

https://www.cancer.gov/about-cancer/treatment/types/hyperthermia

AOH1996

U.S. researchers has developed a new "cancer-killing pill" that could target and kill solid tumors while leaving healthy cells unharmed. According to a press release from City of Hope, the **AOH1996 "appears to annihilate all solid tumors."** City of Hope is a private, non-profit clinical research center, hospital, and graduate school in Duarte, California. It's one of the largest cancer research and treatment organizations in the United States.

Given orally, AOH1996 suppresses tumor growth but causes no discernable side effect

https://www.cell.com/cell-chemical-biology/fulltext/S2451-9456(23)00221-0

ANTI Angiogenesis

Angiogenesis

Angiogenesis is the formation of new blood vessels. This process involves the migration, growth, and differentiation of endothelial cells, which line the inside wall of blood vessels. The process of angiogenesis is controlled by chemical signals in the body. Some of these signals, such as vascular endothelial growth factor (VEGF), bind to receptors on the surface of normal endothelial cells. When VEGF and other endothelial growth factors bind to their receptors on endothelial cells, signals within these cells are initiated that promote the growth and survival of new blood vessels. Other chemical signals, called angiogenesis inhibitors, interfere with blood vessel formation.

Normally, the angiogenesis stimulating and inhibiting effects of these chemical signals are balanced so that blood vessels form only when and where they are needed, such as during growth and healing. But, for reasons that are not entirely clear, sometimes these signals can become unbalanced, causing increased blood vessel growth that can lead to abnormal conditions or disease. For example, angiogenesis is the cause of age-related wet macular degeneration.

Angiogenesis plays a critical role in the growth of cancer because solid tumors need a blood supply if they are to grow beyond a few millimeters in size. Tumors can actually cause this blood supply to form by giving off chemical signals that stimulate angiogenesis. Tumors can also stimulate nearby normal cells to produce angiogenesis signaling molecules.

The resulting new blood vessels “feed” growing tumors with oxygen and nutrients, allowing the tumor to enlarge and the cancer cells to invade nearby tissue, to move throughout the body, and to form new colonies of cancer cells, called metastases.

Because tumors cannot grow beyond a certain size or spread without a blood supply, scientists have developed drugs called angiogenesis inhibitors, which block tumor angiogenesis. The goal of these drugs, also called antiangiogenic agents, is to prevent or slow the growth of cancer by starving it of its needed blood supply.

DRUGS

- Axitinib (Inlyta®)
- Bevacizumab (Avastin®)

- Cabozantinib (Cometriq®)
- Everolimus (Afinitor®)
- Lenalidomide (Revlimid®)
- Lenvatinib mesylate (Lenvima®)
- Pazopanib (Votrient®)
- Ramucirumab (Cyramza®)
- Regorafenib (Stivarga®)
- Sorafenib (Nexavar®)
- Sunitinib (Sutent®)
- Thalidomide (Synovir, Thalomid®)
- Vandetanib (Caprelsa®)
- Ziv-aflibercept (Zaltrap®)

https://www.hopkinsmedicine.org/health/conditions-and-diseases/angiogenesis-inhibitors

FOODS

There are also foods that exhibit extreme antiangiogenic properties.

One notable substance, ellagic acid was found to cause anti-angiogenesis activity.

"A few years ago, I gave an educational TED Talk on the subject of angiogenesis that posed the question: "Can we eat to starve cancer?" The answer to that question was "yes", and my scientific explanation of how we can do that has since attracted over 11 million views."

"So, if angiogenesis is a tipping point between a harmless cancer and a harmful one, then a revolutionary approach to preventing cancer is by cutting off its blood supply by consuming anti-angiogenic foods."

Six Foods to eat to BEAT Cancer:

- Soy
- Green Tea
- Coffee
- Tomatoes
- Red Wine
- Beer

https://drwilliamli.com/eating-to-beat-cancer/

https://drwilliamli.com/how-we-can-starve-cancer-with-food/

https://www.ted.com/talks/william_li_can_we_eat_to_starve_cancer?language=en

https://www.forksoverknives.com/wellness/cancer-diet-therapy-video/

https://www.amazon.com/Eat-Beat-Disease-Science-Itself/dp/1538714620

CAR T-CELL and Immunotherapy

"For decades, the foundations of cancer treatment have been surgery, chemotherapy, and radiation therapy. These continue to be critical mainstays of treatment, but new categories of treatment have recently helped transform the treatment picture for people with cancer."

The 2000s marked the emergence of targeted therapies like imatinib (Gleevec) and trastuzumab (Herceptin)—drugs that find and kill cancer cells by homing in on specific molecular changes seen primarily in those cells. Dozens of targeted therapies are now standard treatments for many cancers."

https://www.cancer.gov/about-cancer/treatment/research/car-t-cells

"CAR-T cell therapy is an individualized cell-based technique that involves removing some of your own white blood cells, including T cells. To make CAR-T cells, the collected T cells are genetically treated in the lab to produce special receptors called chimeric antigen receptors, or CARs. These CARs allow the T cells to recognize an antigen (or marker) at the surface of cancer cells and activate T cells' ability to kill these cancer cells. The CAR-T cells are infused back into your body to identify and destroy certain cancers. This immunotherapy is one of the most promising areas of cancer treatment."

https://www.mayoclinic.org/departments-centers/car-t-cell-therapy-program/sections/gnc-20405215

"T-cell transfer therapy is a **type of immunotherapy** that makes your own immune cells better able to attack cancer. There are two main types of T-cell transfer therapy: tumor-infiltrating lymphocytes (or TIL) therapy and CAR T-cell therapy. Both involve collecting your own immune cells, growing large numbers of these cells in the lab, and then giving the cells back to you through a needle in your vein. T-cell transfer therapy is also called adoptive cell therapy, adoptive immunotherapy, and immune cell therapy."

https://www.cancer.gov/about-cancer/treatment/types/immunotherapy/t-cell-transfer-therapy

Dostarlimab (Jemperli)

"Dostarlimab, sold under the brand name Jemperli, is a **monoclonal antibody** used as an anti-cancer medication for the treatment of endometrial cancer. Dostarlimab is a programmed death receptor-1–blocking monoclonal antibody." This is yet another immunotherapy.

"Dostarlimab, an anti-programmed cell death protein (PD-1) monoclonal antibody has mesmerized the medical profession by showing **complete (100%) cure of patients** with colorectal cancer."

https://pubmed.ncbi.nlm.nih.gov/36005013/

https://www.nejm.org/doi/full/10.1056/NEJMoa2216334

"Dostarlimab made headlines earlier this month after news broke that **every patient** with a certain type of rectal cancer was put into remission after using the cancer drug in a clinical trial. The researchers found that, after taking dostarlimab every three weeks for six months, all patients with mismatch repair-deficient stage II or III rectal adenocarcinoma had "no evidence of tumor" on MRI or other tests."

THIS IS AMAZING.

What else can it do? "Because it's an immunotherapy drug, it's not specific for tumor types," she said. This means the drug could technically be used to treat a range of cancers. However, GSK, the maker of dostarlimab, has only completed clinical trials on patients with endometrial cancer and sought FDA approval for that specific indication."

Good old FDA…

https://www.verywellhealth.com/what-else-can-dostarlimab-treat-5496751

https://www.mayoclinic.org/tests-procedures/cancer-treatment/in-depth/cancer-treatment/art-20047246

Mayo Clinic Alternative Treatments

Many people with cancer are interested in trying anything that may help them, including complementary and alternative cancer treatments. But many alternative cancer treatments are unproved and some may even be dangerous.

To help you sort out the good from the bad, here are 11 alternative cancer treatments that are generally safe. Plus, there is growing evidence that these treatments may provide some benefit.

- Acupuncture
- Cognitive behavioral therapy (CBT)
- Exercise
- Hypnosis
- Message Therapy
- Meditation
- Music Therapy
- Tai Chi
- Relaxation Therapy

Histotripsy

Pioneered at the University of Michigan, histotripsy offers a promising alternative to cancer treatments such as surgery, radiation, and chemotherapy, which often have significant side effects. FDA officials awarded clearance to HistoSonics, a company co-founded in 2009 by engineers and doctors for the use of histotripsy to destroy targeted liver tissue. A human trial underway since 2021 at the University of Michigan Rogel Cancer Center and other locations has treated patients with primary and metastatic liver tumors via histotripsy, demonstrating the technology's ability to meet the testing's primary effectiveness and safety targets.

"Histotripsy is an exciting new technology that, although it is in early stages of clinical use, may provide a noninvasive treatment option for patients with liver cancer. Hopefully it can be combined with systemic therapies for a synergistic therapeutic effect," says Mishal Mendiratta-Lala, professor of radiology with Michigan Medicine and principal investigator of the trial.

https://www.futurity.org/histotripsy-cancer-treatment-ultrasound-2986792/

The treatment, called histotripsy, noninvasively focuses ultrasound waves to mechanically destroy target tissue with millimeter precision. The relatively new technique is currently being used in a human liver cancer trial in the United States and Europe.

https://scitechdaily.com/noninvasive-sound-technology-breaks-down-tumors-kills-cancer-cells-and-spurs-the-immune-system/

https://www.sciencedaily.com/releases/2022/04/220418093955.htm

Sildenafil (Viagra)

Phosphodiesterase-5 (PDE5) inhibitors have shown promise as anti-cancer agents in malignancies. Phosphodiesterase (PDEs) are a common class of metallohydrolases that catalyze the hydrolysis of cyclic adenosine monophosphate (cAMP) and cyclic guanosine monophosphate (cGMP). They play a crucial role in regulating various physiological processes, including visual transduction, cell proliferation and differentiation, cell cycle regulation, gene expression, inflammation, cell apoptosis, and metabolic function[1,2]. Phosphodiesterase type-5 (PDE5) is a cGMP-specific hydrolytic enzyme that has been reported to be expressed in smooth muscle, the cerebellum, the brain, the retina, and platelets[3]. PDE5 is up-regulated in the bladder, lung, thyroid, cervical and prostate cancer. PDE5 inhibitors, such as sildenafil, vardenafil, and tadalafil, are FDA-approved and PDE5-specific targeted therapies commonly used to treat patients with erectile dysfunction, pulmonary arterial hypertension, and other non-malignant diseases.

GC patients who administrated with PDE5 inhibitors exhibit lower cancer-specific mortality.

Sildenafil is primarily used in the treatment of erectile dysfunction because of its ability to enhance nitric oxide-mediated relaxation in the corpus cavernosum. Recent studies have highlighted its potential anti-cancer effects in various cancer types. Simultaneously, concerns have been raised about its possible pro-cancer activity, with multiple studies suggesting a link between sildenafil use and an increased risk of melanoma. Although this causal link remains uncertain, the dual oncological effects of this drug require careful consideration in clinical applications.

https://www.nature.com/articles/s42003-025-07519-9

https://journals.lww.com/rdm/fulltext/2025/06000/pro_cancer_and_anti_cancer_effects_of_sildenafil_.8.aspx

UltraSound

A new technique (CalTech) could offer a targeted approach to fighting cancer: low-intensity pulses of ultrasound have been shown to selectively kill cancer cells while leaving normal cells unharmed. Ultrasound waves—sound waves with frequencies higher than humans can hear—have been used as a cancer treatment before, albeit in a broad-brush approach: high-intensity bursts of ultrasound can heat up tissue, killing cancer and normal cells in a target area. Now, scientists and engineers are exploring the use of low-intensity pulsed ultrasound (LIPUS) in an effort to create a more selective treatment.

A study describing the effectiveness of the new approach in cell models was published in *Applied Physics Letters* on January 7. The researchers behind the work caution that it is still preliminary—it still has not been tested in a live animal let alone in a human, and there remain several key challenges to address—but the results so far are promising.

https://www.caltech.edu/about/news/ultrasound-can-selectively-kill-cancer-cells

Targeting Chromatin

A study which was recently published in the journal *Nature Biomedical Engineering* — reveals how altering the structure of chromatin in cancer cells could make them easier to destroy. In the cell nucleus, DNA is wrapped around proteins called histones. Together they form chromatin. The new technique is called Partial Wave Spectroscopic (PWS) microscopy, and it enables real-time monitoring of chromatin in living cells. Additionally, the researchers explain that PWS allows them to assess chromatin at a length scale of 20–200 nanometers, which they say is the precise point at which cancer formation influences chromatin. They used PWS to monitor chromatin in cultured cancer cells. They found that chromatin has a specific "packing density" associated with gene expression that helps cancer cells to evade treatments.

Based on their discovery, the researchers hypothesized that altering the structure of chromatin to make it more orderly could be one way of boosting cancer cells' vulnerability to treatment. On further investigation, the team found that they could modify chromatin's structure by altering electrolytes in the nucleus of cancer cells.

The team tested this strategy using two drugs that are already approved by the Food and Drug Administration (FDA): Celecoxib and Digoxin.

Celecoxib is currently used for pain relief, while Digoxin is used to treat atrial fibrillation and heart failure. Both drugs, however, are also able to change the packing density of chromatin.

The researchers combined these drugs — which they refer to as chromatin protection therapeutics (CPTs) — with chemotherapy and tested them on cancer cells in the laboratory. According to Backman, they witnessed "something remarkable."

"Within 2 or 3 days, nearly every single cancer cell died because they could not respond. The CPT compounds don't kill the cells; they restructure the chromatin. If you block the cells' ability to evolve and to adapt, that's their Achilles' heel." -Vadim Backman

https://www.medicalnewstoday.com/articles/320003

Other Protocols

This is a living document and will continue to be updated.

Budwig Diet https://www.mskcc.org/cancer-care/integrative-medicine/herbs/budwig-diet-01

CAAT https://www.mskcc.org/cancer-care/integrative-medicine/herbs/caat

CBD Oil

Cellect https://www.mskcc.org/cancer-care/integrative-medicine/herbs/cellect

Cesium chloride https://www.mskcc.org/cancer-care/integrative-medicine/herbs/cesium-chloride

Di Bella Multitherapy (DBM) https://www.mskcc.org/cancer-care/integrative-medicine/herbs/di-bella-multitherapy

Essiac https://www.mskcc.org/cancer-care/integrative-medicine/herbs/essiac

Gerson regimen https://www.mskcc.org/cancer-care/integrative-medicine/herbs/gerson-regimen

Insulin potentiation therapy https://www.mskcc.org/cancer-care/integrative-medicine/herbs/insulin-potentiation-therapy

Livingston-Wheeler therapy https://www.mskcc.org/cancer-care/integrative-medicine/herbs/livingston-wheeler-therapy

Oleandrin treatment https://www.mskcc.org/cancer-care/integrative-medicine/herbs/oleandrin

PC-SPES treatment https://www.mskcc.org/cancer-care/integrative-medicine/herbs/pc-spes

Probiotics

Proteolytic enzyme (PE) treatments https://www.mskcc.org/cancer-care/integrative-medicine/herbs/proteolytic-enzymes

Sho-saiko-to https://www.mskcc.org/cancer-care/integrative-medicine/herbs/sho-saiko

Sun Farms Vegetable Soup https://www.mskcc.org/cancer-care/integrative-medicine/herbs/sun-farms-vegetable-soup

Transfer factor https://www.mskcc.org/cancer-care/integrative-medicine/herbs/transfer-factor

Zyflamend herbal supplement system https://www.mskcc.org/cancer-care/integrative-medicine/herbs/zyflamend

Targeted Therapy

Targeted therapy is a type of cancer treatment that targets proteins that control how cancer cells grow, divide, and spread. It is the foundation of precision medicine.

- small-molecule drugs
- monoclonal antibodies

Chemotherapy

https://www.cancer.gov/about-cancer/treatment/drugs/cancer-type

Clinical Trials

https://www.cancer.gov/about-cancer/treatment/clinical-trials/search

Recognizing DNA Damage Symptoms: A Complete Guide

https://www.cochrane-handbook.org/recognizing-dna-damage-symptoms-a-complete-guide/

Resources

https://www.cancer.news/

Memorial Sloan Kettering Herbs for Fighting Cancer

https://www.mskcc.org/cancer-care/diagnosis-treatment/symptom-management/integrative-medicine/herbs/search

- = evidence exists

714x

Acai Berry

AHCC

Paw Paw

Amygdalin

Antineoplastons

Beta-elemene

*Bitter Melon

Bloodroot

*Sprouts

Bromelain

Burdock

Calcium glucarate

Camu-camu

*Cannabis

Cascara sagrada

Cat's claw

Cesium chloride

Chaparral

Chinese asparagus

Comfrey

Convolvulis arvensis

*Coriolus versicolor

Cranberry

Croton lechleri

*D-limonene

*Diindolylmethane (Indole-3-Carbinol)

Dimethylsulfoxide

*Ellagic acid

*Garlic

Graviola

*Green Tea

Indirubin

*Indole-3-carbinol

*Inositol

Isatis leaf

Kombucha tea

Lavender

*shiitake mushroom

Ligustrum lucidum

*Low Dose Naltrexone

*goji berries

*lycopene

Magnolia officinalis

MGN-3

Mistletoe

Nattokinase

Neem

Nigella sativa

olive leaves

Pao pereira

Pau d'arco

Pectin

Pennyroyal

Perillyl alcohol

Petiveria alliacea

Pokeweed

Probiotics

Propolis (bee hive glue)

Rhubarb

Sheep sorrel

Slippery elm

Soy

Stillingia root

Tian Xian

Tribulus

Triphala

Turmeric (curcumin)

wheat germ

Wheat grass

Yunnan Baiyao

Generalized List of Healing Foods For Fighting Cancer

https://www.healingfoodreference.com/cancer.html

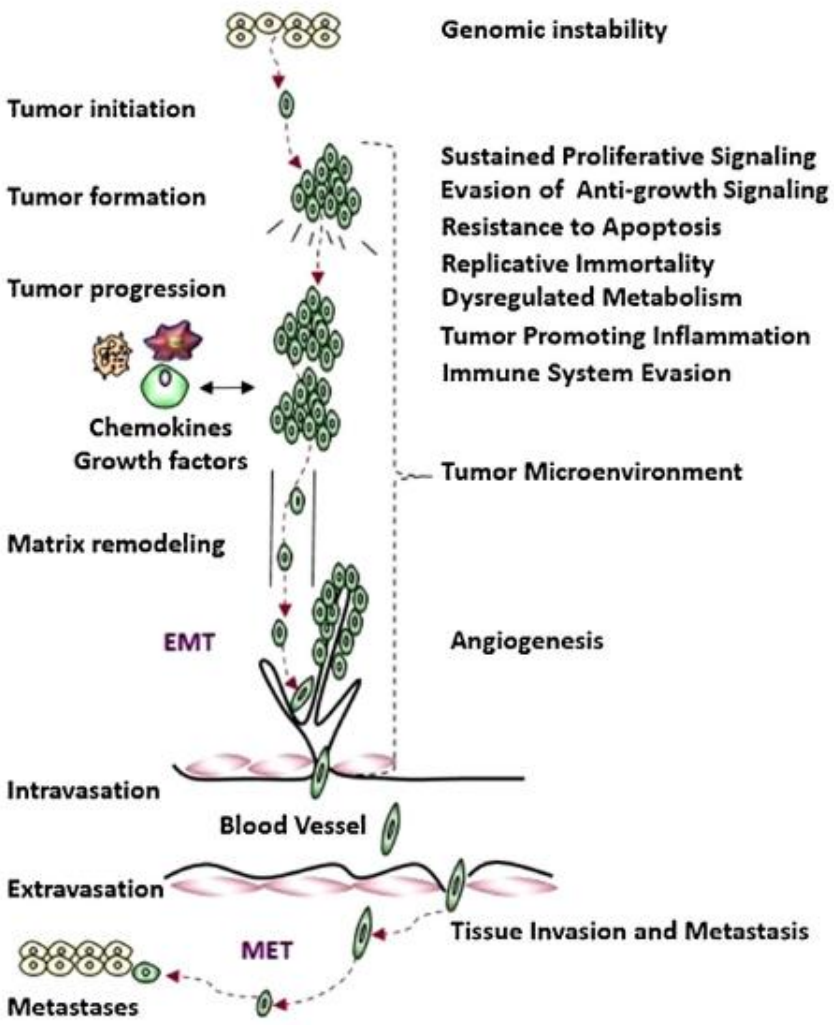
- Broccoli
- Mustard greens
- Cabbage
- Bell pepper
- Parsnip
- Nuts
- Sweet potato
- Mushrooms
- Collard greens
- Kale
- Bok choy
- Radish
- Barley
- Arugula
- Cauliflower
- Turnips
- Apricot
- Sesame oil
- Strawberries
- Yogurt

- Beets
- Figs
- Seaweed
- Flaxseeds
- Olive oil
- Pumpkin
- Lemon
- Spinach
- Watercress
- Tomato
- Amaranth
- Cashews
- Sunflower seeds
- Peach
- Grapes
- Brussels sprouts
- Honey
- Mango
- Scallops
- Cod
- Halibut
- Sorghum
- Summer squash
- Red snapper
- Swordfish
- Tuna
- Raspberries
- Salmon
- Melon
- Plum
- Cherries
- Grapefruit
- Nectarine
- Avocado
- Carrots
- Papaya
- Oats
- Lentils
- Apple

- Cucumber
- Rhubarb
- Leek
- Asparagus
- Limes
- Horseradish
- Whole grain wheat
- Pineapple
- Onion

Appendix

Progression of Cancer



Anti cancer drugs and supplements

Below is a piece of a recent nice article proposing a broad-spectrum integrative approach for cancer prevention and treatment. I find it interesting specifically because the article is suggesting a large list of drugs and supplements that are easy to access while addressing multiple anti cancer mechanisms.

The article is entitled: *Designing a broad-spectrum integrative approach for cancer prevention and treatment* http://www.sciencedirect.com/science/article/pii/S1044579X15000887

Abstract: Targeted therapies and the consequent adoption of €œpersonalized€ oncology have achieved notable successes in some cancers; however, significant problems remain with this approach. Many targeted therapies are highly toxic, costs are extremely high, and most patients experience relapse after a few disease-free months. Relapses arise from genetic heterogeneity in

tumors, which harbor therapy-resistant immortalized cells that have adopted alternate and compensatory pathways (i.e., pathways that are not reliant upon the same mechanisms as those which have been targeted). To address these limitations, an international task force of 180 scientists was assembled to explore the concept of a low-toxicity €œbroad-spectrum€ therapeutic approach that could simultaneously target many key pathways and mechanisms. Using cancer hallmark phenotypes and the tumor microenvironment to account for the various aspects of relevant cancer biology, interdisciplinary teams reviewed each hallmark area and nominated a wide range of high-priority targets (74 in total) that could be modified to improve patient outcomes. For these targets, corresponding low-toxicity therapeutic approaches were then suggested, many of which were phytochemicals. Proposed actions on each target and all of the approaches were further reviewed for known effects on other hallmark areas and the tumor microenvironment. Potential contrary or procarcinogenic effects were found for 3.9% of the relationships between targets and hallmarks, and mixed evidence of complementary and contrary relationships was found for 7.1%. Approximately 67% of the relationships revealed potentially complementary effects, and the remainder had no known relationship. Among the approaches, 1.1% had contrary, 2.8% had mixed and 62.1% had complementary relationships. These results suggest that a broad-spectrum approach should be feasible from a safety standpoint. This novel approach has potential to be relatively inexpensive, it should help us address stages and types of cancer that lack conventional treatment, and it may reduce relapse risks. A proposed agenda for future research is offered.

Table S3. Approaches listed by hallmark for all hallmarks. Cross-validations are shown for each approach-hallmark interaction.

(AN, angiogenesis; AP, resistance to apoptosis; DM, dysregulated metabolism; EAG, evasion of anti-growth signaling; GI, genomic instability; IE, immune evasion; RI, replicative immortality; SPS, sustained proliferative signaling; TIM tissue invasion and metastasis; TME, tumor microenviroment; TPI, tumor promoting inflammation.)

KEY

GI - Genomic Instability

SPS - Sustained Proliferative Signaling

TPI - Tumor-promoting Inflammation

EAG - Evasion of Anti-growth Signaling

AP - Resistance to Apoptosis

RI - Replicative Immortality

DM - Dysregulated Metabolism

IE - Immune System Evasion

AN - Angiogenesis

TIM - Tissue Invasion and Metastasis

TME - Tumor Microenvironment

	Approaches	(GI)	(SPS)	(TPI)	(EAG)	(AP)	(RI)	(DM)	(IE)	(AN)	(TIM)	(TME)
ANa	Curcumin	+	+	+	+	+	+	+	+	+	+	+
AN	EGCG	+	+	+	+	+	+	+	+	+	+	+
AN	Enterolactone	0	+	+	+	+	0	0	0	+	+	+
AN	Kaempferol	0	0	+	+	+	0	+	0	+	+	+
AN	Melatonin	+	+	0	+	+	+	+	+	+	+	+
AN	Oleanoic acid	+	0	+	+	+	+	+	+	+	+	+
AN	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
AN	Silibinin	+	+	+	+	+	+	+	+	+	+	+
AN	Tripterine	0	0	0	+	+	0	0	0	+	+	+
AN	Withaferin A	0	+	+	+	+	0	+	+	+	+	+
AP	EGCG	+	+	+	+	+	+	+	+	+	+	+
AP	Gossypol	0	+	+	+	+	+	+	0	+	+	+
AP	Selinexor	0	0	0	0	+	0	0	0	0	+	+
AP	Triptolide	0	+	+	+	+	+	+	–	+	+	+
AP	UMI-77	0	+	0	+	+	0	0	0	0	+	+
DM	3-bromopyruvate	0	+	0	+	+	0	+	0	+	+	+
DM	BPTES	0	+	0	+	0	0	+	0	0	+	+
DM	Dichloroacetate	0	+	+	0	0	0	+	+	+	+	+
DM	FX11	–	0	0	0	0	0	+	0	0	0	+
DM	GW5074	0	+/-	0	+	0	0	+	0	0	+	0
DM	Hexachlorophene	+	+	0	+	+	0	+	0	0	+	0
DM	Metformin	+	+/-	+	+	+	+	+	+	+	+	+
DM	PK15	+	+	0	+	+	0	+	0	0	+	0
DM	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
DM	TEPP-46	0	0	+	0	0	0	+	0	0	0	+
EAG	Curcumin	+	+	+	+	+	+	+	+	+	+	+
EAG	Deguelin	0	+	+	+	+	0	0	0	+	+	+
EAG	EGCG	+	+	+	+	+	+	+	+	+	+	+
EAG	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
EAG	Luteolin	+	+	+	+	+	0	+	0	+	+	+
EAG	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
EAG	Withaferin A	0	+	+	+	+	0	+	+	+	+	+
GI	Carotenoids	+	+	+	+/-	+	+	+	+	+	+	+
GI	Isothiocyanate	+	+	+	+	+	+	+	0	+	+	+
GI	PARP inhibitor	+	+	+	+	+	+	0	0	+	+	+

GI	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
GI	Selenium	+	+/-	–	+	+	+	0	0	+/-	+	+
GI	Vitamin B	+	+/-	+	0	0	0	0	0	+/-	+	0
GI	Vitamin D	+	+	+	+	+	+	0	+	+	+	+
IE	Astaxanthin	0	+	+	+	+	0	0	+	0	+	+
IE	Astragalus membranaceus polysaccharide	0	0	+	+	+	0	0	+	–	+	+
IE	Ganoderma lucidum polysaccharide	0	+	+	+	+	+	0	+	+	+	+
IE	HS-1793 (polyphenol resveratrol analogue)	0	0	0	0	+	0	0	+	+	+	+
IE	Lentinus edodes polysaccharide	0	+	+	+	+	0	0	+	+	+	+
IE	Trametes versicolor polysaccharide-k	0	0	0	+	0	0	0	+	0	0	+
RI	Curcumin	+	+	+	+	+	+	+	+	+	+	+
RI	Dinacicilib	0	+	0	+	+	+	0	0	0	+	+
RI	EGCG	+	+	+	+	+	+	+	+	+	+	+
RI	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
RI	Imetelstat	+/-	0	0	+	+	+	0	0	0	0	+
RI	Palbociclib	0	+	0	+	+	+	0	0	0	–	0
RI	Perillyl alcohol	+	+	+	+	+	+	+	0	+	+	+
SPS	Curcumin	+	+	+	+	+	+	+	+	+	+	+
SPS	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
SPS	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
TIM	5,6-dihydro-4H-pyrrolo[1,2-b]-pyrrazoles	0	0	0	0	0	0	0	0	0	+	+
TIM	Cordycepin	0	+	+	+	+	0	+	0	+	+	+
TIM	Eicosapentaenoic acid	0	+	+	+	+	+	0	0	+	+	+
TIM	Gamma linolenic acid	0	+	0	+	+	0	+	0	+	+	+
TIM	Ganoderic acids	0	+	+	+	+	0	0	0	+	+	+
TIM	Grifolin	0	+	0	+	+	0	+	0	0	+	+
TIM	Pachymic acid	0	+	+	+	+	0	0	0	0	+	+
TIM	Polysaccharide (G. lucidum)	0	+/-	+	+	+	0	+	+	+	+	+
TIM	Silibinin	+	+	+	+	+	+	+	+	+	+	+
TIM	Î²-(1-6)-D-glucan (A. blazei)	0	+	+	0	+	0	+	0	0	+	+
TME	Berberine	+	+	0	+	+	+	+	–	+	+	+
TME	Curcumin	+	+	+	+	+	+	+	+	+	+	+
TME	Desoxyrhapontigenin	0	0	0	0	+	0	0	0	0	0	+
TME	EGCG	+	+	+	+	+	+	+	+	+	+	+
TME	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
TME	Naringenin	+	+	+	0	+/-	0	+	+/-	0	+	+
TME	Onionin A	0	0	0	0	0	0	0	0	0	0	+
TME	Piperine	+	+	0	+	+	0	+	–	0	+	+
TME	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
TME	Zerumbone	0	+	0	0	+	0	+	+	0	+	+
TPI	Anthocyanins	+	+	+	+	+	+	0	0	+	+	+
TPI	Curcumin	+	+	+	+	+	+	+	+	+	+	+
TPI	EGCG	+	+	+	+	+	+	+	+	+	+	+
TPI	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+

TPI	Lycopene	+	+	+	+	+	0	0	0	+	+	+
TPI	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+

Sorted by Approach:

	Approaches	**(GI)**	**(SPS)**	**(TPI)**	**(EAG)**	**(AP)**	**(RI)**	**(DM)**	**(IE)**	**(AN)**	**(TIM)**	**(TME)**
DM	3-bromopyruvate	0	+	0	+	+	0	+	0	+	+	+
TIM	5,6-dihydro-4H-pyrrolo[1,2-b]-pyrrazoles	0	0	0	0	0	0	0	0	0	+	+
TPI	Anthocyanins	+	+	+	+	+	+	0	0	+	+	+
IE	Astaxanthin	0	+	+	+	+	0	0	+	0	+	+
IE	Astragalus membranaceus polysaccharide	0	0	+	+	+	0	0	+	–	+	+
TME	Berberine	+	+	0	+	+	+	+	–	+	+	+
DM	BPTES	0	+	0	+	0	0	+	0	0	+	+
GI	Carotenoids	+	+	+	+/-	+	+	+	+	+	+	+
TIM	Cordycepin	0	+	+	+	+	0	+	0	+	+	+
ANa	Curcumin	+	+	+	+	+	+	+	+	+	+	+
EAG	Curcumin	+	+	+	+	+	+	+	+	+	+	+
RI	Curcumin	+	+	+	+	+	+	+	+	+	+	+
SPS	Curcumin	+	+	+	+	+	+	+	+	+	+	+
TME	Curcumin	+	+	+	+	+	+	+	+	+	+	+
TPI	Curcumin	+	+	+	+	+	+	+	+	+	+	+
EAG	Deguelin	0	+	+	+	+	0	0	0	+	+	+
TME	Desoxyrhapontigenin	0	0	0	0	+	0	0	0	0	0	+
DM	Dichloroacetate	0	+	+	0	0	0	+	+	+	+	+
RI	Dinacicilib	0	+	0	+	+	+	0	0	0	+	+
AN	EGCG	+	+	+	+	+	+	+	+	+	+	+
AP	EGCG	+	+	+	+	+	+	+	+	+	+	+
EAG	EGCG	+	+	+	+	+	+	+	+	+	+	+
RI	EGCG	+	+	+	+	+	+	+	+	+	+	+
TME	EGCG	+	+	+	+	+	+	+	+	+	+	+
TPI	EGCG	+	+	+	+	+	+	+	+	+	+	+
TIM	Eicosapentaenoic acid	0	+	+	+	+	+	0	0	+	+	+
AN	Enterolactone	0	+	+	+	+	0	0	0	+	+	+
DM	FX11	–	0	0	0	0	0	+	0	0	0	+
TIM	Gamma linolenic acid	0	+	0	+	+	0	+	0	+	+	+
TIM	Ganoderic acids	0	+	+	+	+	0	0	0	+	+	+
IE	Ganoderma lucidum polysaccharide	0	+	+	+	+	+	0	+	+	+	+
EAG	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
RI	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
SPS	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+

TME	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
TPI	Genistein	+	+/-	+/-	+/-	+	+	+/-	+/-	+	+	+
AP	Gossypol	0	+	+	+	+	+	+	0	+	+	+
TIM	Grifolin	0	+	0	+	+	0	+	0	0	+	+
DM	GW5074	0	+/-	0	+	0	0	+	0	0	+	0
DM	Hexachlorophene	+	+	0	+	+	0	+	0	0	+	0
IE	HS-1793 (polyphenol resveratrol analogue)	0	0	0	0	+	0	0	+	+	+	+
TIM	Î²-(1-6)-D-glucan (A. blazei)	0	+	+	0	+	0	+	0	0	+	+
RI	Imetelstat	+/-	0	0	+	+	+	0	0	0	0	+
GI	Isothiocyanate	+	+	+	+	+	+	+	0	+	+	+
AN	Kaempferol	0	0	+	+	+	0	+	0	+	+	+
IE	Lentinus edodes polysaccharide	0	+	+	+	+	0	0	+	+	+	+
EAG	Luteolin	+	+	+	+	+	0	+	0	+	+	+
TPI	Lycopene	+	+	+	+	+	0	0	0	+	+	+
AN	Melatonin	+	+	0	+	+	+	+	+	+	+	+
DM	Metformin	+	+/-	+	+	+	+	+	+	+	+	+
TME	Naringenin	+	+	+	0	+/-	0	+	+/-	0	+	+
AN	Oleanoic acid	+	0	+	+	+	+	+	+	+	+	+
TME	Onionin A	0	0	0	0	0	0	0	0	0	0	+
TIM	Pachymic acid	0	+	+	+	+	0	0	0	0	+	+
RI	Palbociclib	0	+	0	+	+	+	0	0	0	–	0
GI	PARP inhibitor	+	+	+	+	+	+	0	0	+	+	+
RI	Perillyl alcohol	+	+	+	+	+	+	+	0	+	+	+
TME	Piperine	+	+	0	+	+	0	+	–	0	+	+
DM	PK15	+	+	0	+	+	0	+	0	0	+	0
TIM	Polysaccharide (G. lucidum)	0	+/-	+	+	+	0	+	+	+	+	+
AN	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
DM	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
EAG	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
GI	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
SPS	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
TME	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
TPI	Resveratrol	+	+	+	+	+	+	+	+/-	+/-	+	+
GI	Selenium	+	+/-	–	+	+	+	0	0	+/-	+	+
AP	Selinexor	0	0	0	0	+	0	0	0	0	+	+
AN	Silibinin	+	+	+	+	+	+	+	+	+	+	+
TIM	Silibinin	+	+	+	+	+	+	+	+	+	+	+
DM	TEPP-46	0	0	+	0	0	0	+	0	0	0	+
IE	Trametes versicolor polysaccharide-k	0	0	0	+	0	0	0	+	0	0	+
AN	Tripterine	0	0	0	+	+	0	0	0	+	+	+
AP	Triptolide	0	+	+	+	+	+	+	–	+	+	+
AP	UMI-77	0	+	0	+	+	0	0	0	0	+	+
GI	Vitamin B	+	+/-	+	0	0	0	0	0	+/-	+	0
GI	Vitamin D	+	+	+	+	+	+	0	+	+	+	+
AN	Withaferin A	0	+	+	+	+	0	+	+	+	+	+

EAG	Withaferin A	0	+	+	+	+	0	+	+	+	+	+
TME	Zerumbone	0	+	0	0	+	0	+	+	0	+	+

Please pay attention to the following approaches:

Curcumin:	Curcumin extract
EGCG:	Green tea extract
Anthocyanins:	Blueberry extract
Carotenoids:	Carrots
Resveratrol	
Vitamin D	
Withaferin:	Ashwaganda
Silibinin:	Silymarin, an extract from milk thistle seeds
Metformin	
Melatonin	
Lycopene	Tomatoes
Isothiocyanate:	Sulfur-containing compounds found in cruciferous vegetables like broccoli, cabbage, and mustard
Oleanoic acid	Olive oil, Garlic.

Cancer Nutrition (Reference: Anti-Cancer Smoothies by Linda Harris)

It's important to pay attention to nutrition because the cancer is going to drain your body of all the things that make it strong and give it energy. You'll need to replace a lot of the vitamins, nutrients and minerals that certain drugs and treatments deplete. You also want to keep yourself as strong as possible so you're equipped to fight the disease. Your nutritional plan will depend on your cancer, your overall health and your treatment plan. For example, if you're undergoing surgery to have cancer removed, you'll likely be put on a low fiber diet in order to lessen stomach cramping, gas and other digestive and intestinal hazards. Building your immune system is essential regardless of the cancer you're fighting. When your body is better equipped to fight off diseases and threats, you're in a position of power that can overcome nearly anything. That's why it's important to feed yourself ingredients that include antioxidants for the best possible immune health.

Anti-Cancer Smoothies

You may be wondering what your anti-cancer smoothies will contain. It's hard to know what you'll feel like eating and what you won't wantto touch. You might find that your appetite changes dramatically, and things you once loved are now repulsive to you. Don't force yourself to eat things that don't taste right. There are enough smoothie recipes in this book to ensure you're able to find at least a handful that won't make you sick or turn you off. The ingredients you use for your smoothies will be fresh, healthy and excellent at helping you fight your cancer battle.

Think about colorful foods and how great they are for your health. Foods that have rich colors are high in phytonutrients, which are plant compounds that keep you healthy and can inhibit cancer growth. Colorful foods are also rich in minerals and vitamins, which are important nutrients for your body.

Red foods are watermelon, apples, tomatoes, strawberries and Raspberries.

Orange foods are tangerines, oranges and carrots as well as squash, sweet potatoes and pumpkin. If you love a seasonally inspired pumpkin spiced latte as a coffee drink, you'll really enjoy the smoothie you can create to maximize the health benefits of pumpkin while you recover from treatment. We will need to be careful with sugar intake.

In the green food category you'll find nutrients that really pack a healthy punch. Broccoli, spinach, kale, celery and avocado all carry extra antioxidants that can suppress cancer growth and prevent healthy cells from turning into cancer cells.

There are some other special ingredients that will keep your smoothies tasting good and easy to digest. Garlic is a super-food that's well known to the scientific community as well as healthy eaters. Garlic contains a compound called allyl sulfur that slows the growth of cancer cells. Anumber of studies have shown that increasing your garlic intake can fight off certain types of cancers, particularly stomach cancer, colon cancer and breast cancer. According to the National Cancer Institute, garlic can block the formation of cancer causing agents in your body and it also raises your natural antibacterial capabilities. While you might not immediately think of garlic as an ideal ingredient for a smoothie, when it's mixed with other superb fruits and vegetables, it works.

Spices and herbs will also play a role in cancer fighting smoothies. Turmeric is a spice that gives curry powder its bright yellow color. Turmeric contains the curcumin compound, which interferes with the ability of cancer cells to grow and spread. Research has shown that curcumin suppresses multiple types of cancer, including colon, breast and pancreatic cancers. If your stomach and your mouth can't handle curry, which is often where you find spices such as turmeric, you'll be able to get the same nutritional and medicinal benefits by drinking those ingredients in a smoothie.

If you are suffering from stomach upset due to your treatment, ginger can help calm your stomach. Ginger is anti-inflammatory, gets rid of nausea, and may slow the growth of malignant cells.

Studies have shown that ingredients in rosemary can inhibit the growth of breast cancer cells and ovarian cancer cells. Although testing on humans remains incomplete, rosemary certainly makes your food more tasteful.

This introduction to anti-cancer smoothies is meant to get you ready to experiment. Some of these may seem strange… Don't be afraid to customize. However, remember that cancers THRIVE on sugar. Go sparingly.

Rosemary Grape Smoothie

2 cups seedless red grapes

1 banana

2 cups spinach

Pinch of fresh rosemary

8 ounces of water

Blend for 20 seconds

Chocolate Avocado Smoothie

1 cup mashed avocado

½ banana

2 tablespoons cocoa powder

1 cup almond milk

Blend for 20 seconds

Tomato Smoothie

2 raw carrots

2 medium tomatoes, chopped

Pinch salt

Pinch black pepper

2 tablespoons fresh lemon juice

½ cup ice

Blend for 5 seconds

Garlic Cucumber Smoothie

2 cloves garlic

½ cup chopped avocado

½ cup cucumber – chopped

1 cup green apple – chopped

5 mint leaves

½ cup water

Blend until smooth