

Chapter 1 : Green tea: Health benefits, side effects, and research

Green tea extract is also used in mouthwash to reduce pain after tooth removal. Green tea in candy is used for gum disease. Green tea is used in an ointment for genital warts.

Theaceae Common Name s: Tea , green tea , black tea , oolong tea , Veregen Uses Tea is traditionally consumed as a beverage. Evidence from clinical trials suggests that green tea plays a role in metabolic syndrome because it may have an impact on body weight, glucose homeostasis, and other cardiovascular risk factors. It has yet to be determined whether green tea is an agent in cancer prevention; however, a role in the prevention of stroke has been suggested. Topical applications have been studied for protection from ultraviolet UV damage, and a commercial preparation has been approved for use in the treatment of anogenital warts. Green tea extract should not be taken on an empty stomach due to the potential for hepatotoxicity from excessive levels of epigallocatechin gallate. Contraindications Contraindications have not been identified; however, use caution when hepatic failure is present. Interactions Vitamin K present in green tea may antagonize the anticoagulant effect of warfarin. Green tea consumption reduces the bioavailability of folic acid and may interfere with the absorption of iron. Green tea may stop bortezomib Velcade from working properly. Patients taking bortezomib should not drink green tea or consume any green tea products. Adverse Reactions There are no reports of clinical toxicity from daily tea consumption as a beverage. Adverse events include headache, dizziness, and GI symptoms. Hepatotoxicity, including 1 fatality, has been associated with high plasma levels of epigallocatechin gallate or its metabolites. High-dose oral green tea extract and catechins were hepatotoxic in rats. Botany Black, oolong, and green tea are produced from the leaves of *C. This evergreen shrub or tree grows to over 9 m in height and is pruned from 60 cm to 1. Its dark green, serrated-edged leaves are alternate and oval, while its white and fragrant blossoms appear singly or in clusters. Oolong tea is produced by a process intermediate to that of green and black tea. History The dried, cured leaves of C. Traditional Chinese medicine has recommended drinking green tea for the prevention of ill health, and in Asia, this is still regarded as a healthy practice. Other tea constituents include tannins, essential oils, riboflavin, niacin, folic acid, ascorbic acid which is present in fresh leaf but destroyed in making black tea , pantothenic acid, malic and oxalic acids, manganese, potassium, magnesium, and fluoride. The primary difference between green and black tea derives from the fermentation process required to produce black tea. The catechins are converted to the higher molecular weight theaflavins absent in green tea. Less fermentation results in an intermediary, lighter tea known as oolong tea. The addition of milk to tea does not affect the bioavailability of catechins, but may alter the antioxidant potential, depending on the fat content. Randomized, double-blind clinical trials have demonstrated the efficacy of the ointment Veregen , which is considered to act via antiviral, immunomodulatory, antioxidant, and antiangiogenesis mechanisms. Comprehensive reviews are available, but are limited in their findings because the studies included are too heterogeneous for meaningful comparisons. A Cochrane meta-analysis of the effects of green tea in cancer has found insufficient and conflicting evidence to support a preventative role. Doses used experimentally may not reflect usual tea consumption, and there may be a combination of effects or a combination of active compounds acting to produce the relationships reported in epidemiological studies. A reduction in LDL cholesterol was found for green tea, but no effect on high-density lipoprotein HDL cholesterol was established. The pharmacological impacts are uncertain; however, several researchers have proposed a number of mechanisms by which it may act on the CNS that include free radical scavenging, iron-chelation, anti-inflammatory effects as well as modulation of enzymes involved in processing amyloid precursor protein. Animal experiments have shown positive findings for Alzheimer and Parkinson disease models. Bone strength and fracture rates were not reported; therefore, extrapolation to a human application is difficult. Long-term human studies are needed that include outcomes of bone fracture and examination of the bone micro-architecture before conclusive recommendations can be made. Stroke acute cerebrovascular episode Large epidemiological studies have shown an inverse association between green tea consumption and the incidence of stroke. Smaller case control studies, however, provide equivocal results. Clinical studies have demonstrated a dose-independent protective*

effect via mechanisms other than a screening effect the sun protection factor for the test materials was minimal. Erythema and inflammation consequent to solar-simulated UV exposure was reduced and was suggested to be related to protection against cutaneous immunosuppression and an antioxidant effect. Green tea exhibits antimicrobial actions against oral bacteria 2 , 3 , 60 , 61 and provides a natural source of fluoride. Black and green tea have been shown to inhibit amylase activity. Chemical constituents are able to cross the blood-brain barrier. Extracts must, therefore, be taken with meals. Due to the caffeine content of tea, use during pregnancy should be limited. Caffeine crosses the placenta and reaches fetal blood and tissue levels similar to maternal concentrations. Interactions Case reports suggest probable antagonism of warfarin by green tea. A folate transporter interaction has been described, leading to decreases in bioavailability of folic acid. Adverse events recorded in pharmacokinetic studies in humans using tea extracts include headache, dizziness, and GI symptoms. A review of 34 case studies of hepatotoxicity, including 1 fatality, found possible causality due to epigallocatechin gallate or its metabolites. Green tea extract must not be taken on an empty stomach. Similarly, low-dose intraperitoneal administration lead to severe hepatic necrosis and mortality. Medicinal benefits of green tea: Review of noncancer health benefits. *J Altern Complement Med*. The role of tea in human health: *J Am Coll Nutr*. Antioxidants of the beverage tea in promotion of human health. Role of Flavonoids in the Diet. *Rapid Commun Mass Spectrom*. Green tea *Camellia sinensis* for the prevention of cancer. *Cochrane Database Syst Rev*. Luczaj W , Skrzydlewska E. Antioxidative properties of black tea. Review of anticancer properties. Acute effects of ingestion of black and green tea on lipoprotein oxidation. *Am J Clin Nutr*. Effectiveness of moderate green tea consumption on antioxidative status and plasma lipid profile in humans. Effect of increased tea consumption on oxidative DNA damage among smokers: Green tea extract only affects markers of oxidative status postprandially: A single dose of tea with or without milk increases plasma antioxidant activity in humans. *Eur J Clin Nutr*. Rietveld A , Wiseman S. Antioxidant effects of tea: Green tea catechins for treatment of external genital warts. *Am J Obstet Gynecol*. Cancer prevention with green tea and monitoring by a new biomarker, hnRNP B1. Bioactive food components that enhance gamma delta T cell function may play a role in cancer prevention. Interventions for treating oral leukoplakia. Cancer chemopreventive activity and bioavailability of tea and tea polyphenols. Tea and cancer prevention: Effects of tea polyphenols on signal transduction pathways related to cancer chemoprevention. Association of coffee, green tea, and caffeine intakes with serum concentrations of estradiol and sex hormone-binding globulin in premenopausal Japanese women. Tea consumption and cardiovascular disease: Thielecke F, Boschmann M. The potential role of green tea catechins in the prevention of the metabolic syndrome - a review. Babu A, Liu D. Green tea catechins and cardiovascular health: Flavonoids, flavonoid-rich foods, and cardiovascular risk: Catechin safely improved higher levels of fitness, blood pressure, and cholesterol in children. Standardized capsule of *Camellia sinensis* lowers cardiovascular risk factors in a randomized, double-blind, placebo-controlled study. Daily consumption of an aqueous green tea extract supplement does not impair liver function or alter cardiovascular disease risk biomarkers in healthy men. Effect of green tea extract on obese women: Green tea catechin consumption enhances exercise-induced abdominal fat loss in overweight and obese adults. Effects of dietary supplementation with the green tea polyphenol epigallocatechingallate on insulin resistance and associated metabolic risk factors: Randomized controlled trial for an effect of green tea-extract powder supplementation on glucose abnormalities. Botanical phenolics and brain health. Cell signaling pathways and iron chelation in the neurorestorative activity of green tea polyphenols: Protective effect of the green tea component, L-theanine on environmental toxins-induced neuronal cell death. Cell signaling pathways in the neuroprotective actions of the green tea polyphenol -epigallocatechingallate:

Chapter 2 : Best Green Tea Extracts & Supplements for (Top 10 Brands)

Green tea extract is its concentrated form, with just one capsule containing the same amount of active ingredients as an average cup of green tea. Like green tea, green tea extract is a great.

The standard way to brew green tea is to: Pour hot water into the teapot to steep the leaves for only about 1-3 minutes. Larger leaves need more time to steep than finer, smaller leaves. At this point you can also add any fresh herbs you plan on steeping. At this point, you can add some lemon juice or raw honey as the finishing touch. Fill kettle with fresh, filtered water and heat to just short of boiling. Green Tea Recipes A common practice around the world, such as in the Blue Zones, is to combine beneficial teas with fresh steeped herbs. Try steeping rosemary, ginger, wild sage, oregano, marjoram, mint or dandelion in tea for an extra antioxidant boost. You can also add fresh lemon juice or some orange to add a refreshing taste. Below are more recipe ideas for using green tea in smoothies or other interesting ways to get the benefits of green tea: Records show that green tea was a common beverage and cooking ingredient 3, years ago in parts of Southwest China, before spreading over the following centuries to India and then Japan. China, other countries in Asia, countries in North Africa, the United States and Europe currently consume the most green tea worldwide. Research suggests that a combination of lifestyle components account for the health benefits observed in people that drink tea. The problem with many studies that investigate the effects of green tea is that they are population studies rather than controlled clinical studies, according to the Mayo Clinic. There are also several harmful effects of green tea over-consumption that are possible. These include consuming tainted supplements marked as green tea extract, high caffeine consumption, consuming aluminum, and the effects of tea polyphenols on iron bioavailability. Green tea extracts should not be taken by patients suffering from renal failure, liver disease, heart conditions or major cardiovascular problems without supervision from a doctor. People sensitive to caffeine should be careful of their intake. Pregnant and breast-feeding women should drink no more than one or two cups per day, as some research shows that more caffeine than this amount may interfere with normal heart rhythms. Antioxidants and other beneficial compounds found in green tea include flavonoids and catechins like EGCG, quercetin, linoleic acid, theobromine and theophylline. These provide many of the benefits of green tea. The Cancer-Protective, Heart-Healthy Benefits of Rooibos Tea From the sound of it, you might think leaky gut only affects the digestive system, but in reality it can affect more. [Click here to learn more about the webinar.](#)

Chapter 3 : EGCG Green Tea Extract Review | All Natural Fat Burner

Green tea extract is usually an isolated form of one or more of the tea's catechins, the most potent of which is EGCG. Generally, any ingredient listed as "green tea extract" can contain anything between a significant amount of EGCG to mere tea leaves in capsule form.

Green tea extract is one of the healthiest beverages in the world, packed with antioxidants and variant nutrients that boost health in many ways. All data was researched and conducted in human studies. Green tea comes from and is made from the *Camellia sinensis* plant, green tea extract is an extract that can also be used as medicine. The plant can grow to be as big as a shrub or tree. What forms does green tea extract come in? Green tea can also be green tea extract pills. These pills can sometimes be more potent than an average cup of regular green tea. These capsule forms are for dietary gains and can be consumed to obtain some of the same benefits as drinking green tea. Look for standardized extract forms of green tea for best uses. Green Coffee Bean Extract Benefits While many teas are used worldwide, only green tea is adored by all users. Tea was first cultivated by the Indians and China but soon found favor all over the world. As of today, tea is the second most consumed beverage in the world next to the water. What makes green tea extract a powerful component to health is that green tea is made from unfermented *Camellia* leaves that have the highest levels of antioxidants called polyphenols. Polyphenols contained in teas classified as catechins. These catechins compound are broken down into six categories which are catechin, Epigallocatechin gallate EGCG , gallocatechin, epicatechin, epigallocatechin, and epicatechin. EGCG is also one of the most studied compounds found in green tea. Alkaloids are a group of naturally occurring chemical compounds that contain basic nitrogen atoms. Alkaloids are very important for humans and animals. Theophylline and theobromine are both related to caffeine and come from organic compounds called Xanthines. Theophylline acts to ease smooth muscle surfaces and helps in breathing and stimulant heart contractions for more blood flow. Theobromine also stimulates the hearth but focuses on blood flow throughout the body. In traditional Chinese herbal medicine green tea extract is used as a stimulant, also known as a diuretic to rid the body of excess water and flush the system. It was also used as an astringent which helps control bleeding, heal wounds, and benefits the heart. Green tea has been extensively studied and shows to help fight and improve areas such as gas, digestion, blood sugar levels, regulating body temperature, and helping mental focus just to name a few. EGCG increases metabolism and fat oxidation while inhibiting fat cell development. Research also found green tea extract to be a long-term fat burner by releasing energy to break down complex materials. Another study found that catechin polyphenols increase thermogenesis and fat oxidation. Green tea has also become widely used by professional athletes and bodybuilders. Combat fighters choose to use green tea in order to cut weight before fights and use it throughout training camp to flush the system and keep things regulated. Some of the best nutritional programs designed for athletes and fighters consistently uses green tea within the program. Nutritional experts have made it a cornerstone of their daily lives and always recommend it to their client. Some of the best fighters in the world have long used green tea not only to cut weight but also to help keep their body away from cold and flu-like symptoms. They maintain green tea in their regime and even offseason as the taste grows on you. This process is a key point to what we know as free radicals within our body. These free radicals can set off a chain of reactions that cause uncontrolled growth of cancer. For that, it is known that antioxidants can have a protective effect from oxidants that can lead to the development of cancer. Researchers also believe that polyphenols can stop the growth of cancer in the human body. Green tea can act to penetrate cell walls which help it eliminate free radicals throughout our whole body. Green Tea Extract for Breast Cancer In one study of women with different stages of cancer found that women who consumed more green tea had less cancer spread throughout their body. These results were stronger in cases of premenopausal women who were in the first stages of breast cancer. It also was able to pass through barriers and fight it throughout the whole body. Scientists are still trying to find why premenopausal women had the biggest impact when they used green tea. Green tea acts to regulate digestive tracts and forms to fight free radicals within the bladder. More research is needed because no information of positive effects of men with

colorectal cancer could be found. However, researchers did conclude that women who drink green tea daily decreased their likelihood of getting colorectal cancer. It also showed lessening symptoms and complications with other prescribed medications for patients. Green Tea Extract for Esophageal Cancer Studies on polyphenols found them to clinically inhibit the growth of esophageal cancer cells. What makes this case study interesting is the conflicting results when it came to certain population points. In some case studies the hotter the drink the more it increased the risk of esophageal cancer while doing the complete opposite to another group point. So more research needs to be done on the positive effects green tea has on esophageal cancer. Green Tea Extract for Pancreatic Cancer A large-scale study was conducted on green tea drinkers and non-tea drinkers. These studies showed that those who consumed green tea regularly decreased their chances of getting pancreatic cancer compared to non-tea drinkers. The more tea they consumed the more benefits they found in reducing the risk of pancreatic cancer. Green Tea Extract for Lung Cancer In test tubes, polyphenols were found to reduce the risk of lung cancer in green tea drinkers. These test was conducted on non-tea drinkers and also black tea drinkers. Some conflicting results did appear but that can also be for variant reasons. What researchers did was look for a link between green tea drinkers and lung cancer. For those who smoke, quitting with green tea as an herbal drink supplement has shown to fight the urge of nicotine. Smokers who chose to quit and supplemented with green tea on average had higher success rates than smokers who did not drink green tea. How to Get Rid of Bruises fast with natural home remedies Green Tea Extract for Prostate Cancer Laboratories studies found that green tea extract and green tea in general reduced the chances of prostate cancer cell growth. Researchers found that the increased frequency, duration, and potency of green tea consumed by patients saw a decrease in prostate cancer and prostate cancer development. It should be noted that green tea did, however, affect chemotherapy drugs within these patients, so we advise medical advice when it comes to using both substances. Since green tea also boosts blood flow and circulation, the skin can faster fight free radicals and UV that might enter it. When sunlight beams down on our skin harmful UV can penetrate and cause more damage than we expected. Skin cancer is very common and chances of getting skin cancer increases as we age. Our diet has a strong tie to our skin, hair, and nail health. Green tea fights to not only protect against free radicals but also fights to restore mineral balances that we might lose or might not be receiving at all. Green tea extract has also shown a positive and strong impact when it came to fighting skin cancer, although more research is needed, the majority of studies conclude to a positive correlation. Studies have shown that green tea can impact type 1 diabetes and also slow its progression after it has developed. Green tea helps to also regulate glucose levels which are inhabited by people who have type 1 diabetes. Early research has also indicated to lower hemoglobin A1c levels with people who are on the borderline of diabetes. For those who consider themselves to be on the borderline, green tea can decrease the chances of full-blown diabetes development, and as we know prevention is better than treatment. Green Tea Extract for Stomach Cancer Early studies have found green tea extract to lower the likelihood of stomach cancer. In a study conducted by Japan, researchers tested 26, people who drank green tea and found to reduce the overall risk of stomach cancer. Although studies were broad it did define a correlation between daily tea drinkers non-tea drinkers when it came to stomach cancer. Green tea helps maintain digestive and blood circulation within the stomach which gives it an added advantage in preventing stomach cancer. It also impacts colon cancer because those who are susceptible to IBD are also susceptible to Colon Cancer. Green tea also acts to regulate digestion and bowel movement which can decrease certain symptoms of IBD. Green Tea Extract for Liver Disease Researchers found that green tea possesses compounds that can lower and prevent liver disease. Studies found that users who drank on average 5 cups of green tea a day were less likely to be diagnosed with liver disease. Several studies conducted on animals and humans found catechins treated viral hepatitis and inflammation of the liver. Regular green tea drinkers also gained help with cavities and tooth decay. Green tea also slows down cartilage breakdown between bones. Chemicals in green tea were also found to help decrease cold and flu symptoms while positively affect problems like genital warts. Green tea has also shown to treat dermatological conditions. Green tea can also improve blood flow and circulation throughout the body and to the skin which happens to be one of the biggest organ systems we have. Green Tea Extract Dosage Dosages of green can vary between men and women. Green tea does have levels of caffeine and methylxanthines, so be

careful if you are sensitive to caffeine. People with heart problems, high blood pressure, kidney problems, and liver problems should consult their doctor when thinking of using green tea. **Key Takeaways** If you do choose to go the route of obtaining a green tea extract its best to choose one with great quality. The majority of green tea extract capsules and pills need to also be checked for quality. Some green tea pills contain high dosages of EGCG and should also be considered when finding the right product for you. The best times of drinking green tea are usually in the morning and afternoons as they have caffeine and might affect your sleep cycle. Green tea can be an added advantage to everyone and can be used for leisure pleasure as well.

Chapter 4 : What Are the Best Green Tea Extracts & Supplements in ? - Health Ambition

Green Tea Extract Supplement with EGCG for Healthy Weight Support- Metabolism, Energy and Healthy Heart Formula - Gentle Caffeine Source - Antioxidant & Free Radical Scavenger - Veggie Capsules.

Green tea is a beverage with a history dating back thousands of years. It is produced from the leaves of a flower called *Camellia sinensis*. Antioxidants are a type of chemical found naturally in many foods. The main type of antioxidants in green tea are catechins. Green Tea Extract Green tea extract is a concentrated form of green tea leaves. The potency of a green tea extract is usually stronger than one cup of tea. You get all the nutritional benefits of green tea, but in a larger dose. Epigallocatechin gallate EGCG is known to be the most potent. It guards healthy cells from the effects of free radicals and reducing risk of cancer. The study confirmed low doses of theanine can partially reverse caffeine-induced reductions in slow-wave sleep. It could also help to improve mood and brain function plus reduce stress. Boost in Performance A key ingredient in green tea extract is caffeine, a stimulant which can help people increase metabolism and enhance alertness. Weight Loss Green tea can help you with losing weight by many ways. Secondly, it can increase fat burning in the body. Reduces the risk of Cancer Antioxidants in green tea have cancer reduction potential. Reduced risk of Diabetes Green tea could reduce glucose levels in your blood. Improving Cardiovascular Health Green tea helps with regulating blood pressure. Watch Out for Caffeine You should be mindful of the caffeine content. For some people it may be beneficial to choose decaffeinated. If you have high blood pressure, you should avoid caffeine completely. Other Ingredients Always read the label and try to look for something without too many additives. The Best Green Tea Extract and Supplement Choices There are a number of products to choose from and it can often be hard to tell which manufacturer offers the best quality supplement.

Chapter 5 : Top 7 Benefits of Green Tea + Green Tea Recipes - Dr. Axe

Green tea extract is a different form of green tea, one that typically comes in a supplemental pill form, but provides many of the same great benefits as green tea as a beverage. However, green tea extract tends to be much more potent and is known as a fat-burning supplement.

These catechins are then broken down into four main classifications of: Although all catechins share similar properties, EGCG appears to be most potent in regards to many of them. These four catechins are the main catechins, although some other isomers or conjugates may be present with either catechin or epicatechin as a backbone, and varying levels of gallic acids. Common sources of green tea catechins primarily the four stated include: Chungtaejeon Tea Korean fermented tea [2] which has lesser amounts of catechins but a higher anti-oxidant potential 1. The parent compound is found in two isomers catechin is the trans isomer, and epicatechin the cis isomer, and epicatechin also exists with a hydroxylation as epigallocatechin. Both epicatechin and epigallocatechin can become acylated with Gallic Acid to form gallates. The two molecules that have gallic acid moieties hanging off the bottom right hand side of the above picture EGCG and ECG share properties that are not seen with the other two EGC, EC, and C; this is because the gallic acid moiety itself may contribute to structure-function. Formulations and Variants A combination of green tea catechins and L-theanine called LGNC has been investigated for its ability to improve memory. In one study on patients suffering from non-clinical memory decline average age 58 it shows some efficacy, mostly in increasing recognition speed, word reading, and selective attention. LGNC is a 6: Flavonoids with a catechol B ring appear to be effective such as rutin, isorhamnetin, and quercetin [12] and EGCG has an IC50 value of 0. This is due to persons with a low-active genotype of COMT being highly associated with higher serum adrenaline levels at rest and exercise. NADPH oxidase inhibition can result in both antiinflammatory and antioxidative effects in a manner not related to the catechins directly scavenging free radicals 2. Absorption Intestinal uptake bioavailability of green tea catechins is low, ranging from 1. They are better absorbed on an empty stomach. Absorption might be able to be increased with piperine, but studies need to be conducted in rats or humans since the animals used, mice, show interspecies differences when compared to humans Green Tea Catechins, primarily EGCG, are inhibitors of intestinal sulfurotransferase enzymes which may metabolize other supplements or drugs. A higher inter-individual variation exists. These amounts are the same whether green tea is administered as a pill or via decaffeinated tea. There seems to be a tipping point at around mg, where the amount in the blood then increases more dramatically. Very high doses of EGCG in the blood are associated with nausea. Learning and Memory Due to EGCG being able to easily cross the blood brain barrier [46] and at mg increasing brain activity up to 2 hours after ingestion, biological relevance for cognition has been investigated. Anxiety and Mood In healthy persons, a single dose of mg EGCG was not found to influence mood in a positive or negative manner. Atherosclerosis Supplementation of Green Tea Catechins has been found to reliably increase the presence of catechins in the blood and overall antioxidative potential of the blood [55] [56] [57] which then leads to a reduction in LDL oxidation. Blood Flow and Vasorelaxation Green tea consumption whole tea has been reported in a meta-analysis to increase endothelium-mediated vasodilation. Cholesterol Green tea catechins are potent inhibitors of the enzyme Squalene epoxidase, a rate limiting enzyme that turns squalene into cholesterol. Insulin When taken alongside sucrose, black tea containing Green Tea Catechins at mg does not appear to alter the insulin response in healthy and diabetic subjects [69] whereas another study pairing brewed green tea mL with a light breakfast found that green tea did not alter the overall exposure to either insulin or glucose when compared to water. Insulin Sensitivity Studies assessing Green Tea Catechins and insulin sensitivity have found in non-diabetic individuals no significant differences from placebo with both mg EGCG, [76] a nonsignificant trend towards improved insulin sensitivity in overweight women mL brewed; estimated Blood Glucose When ingesting a black tea mixture containing Green Tea Catechins alongside sucrose, both mg and mg appear effective at suppressing the amount of glucose that enters the bloodstream over the next minutes to a mild degree with no significant difference between doses; this effect occurred despite no apparent changes in insulin release. Mechanisms

Green tea affects thermogenesis via synergistically acting in concert with its caffeine content, and the addition of mg EGCG to mg caffeine can increase the thermic response to food more than mg caffeine. The end result of the pairing is higher levels of catecholamines induced by caffeine, and this synergism seems to be equipotent at various dosages of EGCG. It appears that this pathway catechol-o-methyltransferase inhibition may be active in vivo. Adipokines When cells are incubated with EGCG, there are no significant changes with leptin and adiponectin secretion up to 48 hours.

Chapter 6 : The Truth About Green Tea for Weight Loss - Consumer Reports

A cup of green tea made from quality leaves delivers a range of beneficial compounds within 30 - 60 minutes (1), initiating changes in hormone balance, taming free radical activity, and providing mild stimulation through caffeine.

Lean Green is made by Primaforce, a company dedicated to providing high quality, research-backed products to meet a variety of health needs. By using pure, clinically proven ingredients to formulate their supplements, Primaforce is able to create highly effective options at affordable prices. Overall, Primaforce Lean Green is a good product. With a good concentration of polyphenols and EGCG in every capsule. With that being said, there are certainly cheaper options out there see our top recommendations. The drink is commonly found worldwide, from restaurants to tea shops to your kitchen tea drawer. Green tea is caffeinated, so many people use it as a healthy alternative to coffee. Other folks use it for its health-boosting antioxidant qualities. Some come in capsule form so you can just take them quickly, while others come in powder form to mix into water.

Science Behind Green Tea Green tea has been used for centuries amongst various world cultures. One of the reasons green tea is such a powerful health booster is its high concentration of polyphenols. These natural plant compounds function as powerful antioxidants. Antioxidants can help to reduce the formation of free radicals. Antioxidants can help to reduce cell damage , among other benefits. There are several antioxidants found in green tea, but EGCG is the most significant. This concentration of antioxidants gives green tea its powerful effects. Caffeine is another significant substance found naturally in green tea. Caffeine has been shown to increase focus , mood, cognitive function, and even athletic performance. It can help give you energy for your day, as well as kick-start your metabolism. You can take them at any time, anywhere, without needing to boil water and steep tea. The health benefits are the same whether you take it in supplement form or in tea. Which leads us to our next section. Packed with antioxidants May provide a calming effect Increases energy expenditure calories burned Can help athletic performance Many different types of people can benefit from taking good green tea supplements, which leads to our next section. Now that you know the specific health advantages of taking green tea, you may be wondering who can benefit from these supplements. The short answer is: First of all, the caffeine in these supplements will help energize you, while increasing thermogenesis to help you burn more calories. Green tea can also help to mobilize fat tissues , freeing them up to be used as energy, which can really help boost your weight loss efforts. Its high antioxidant content, particularly its concentration of EGCG , have been shown to have powerful anti-aging effects. Green tea can keep your skin looking younger, while helping to prevent diseases and health issues, including cancer. Green tea can also help keep you healthy by reducing your risk of catching common colds and flus, due to its ability to kill bacteria before it infects you. And while coffee is not particularly bad for you, it does not have many of the health benefits of green tea. As you can see from the list above, these supplements provide a wide range of health benefits, and can help to prevent serious diseases and conditions. Effective green tea supplements can deliver a host of health benefits. Are There Any Side Effects? In general, there are very few side effects of note. Most people will not experience any negative effects from drinking the tea or taking a concentrated supplement. However, there are some potential side effects , including: Trouble sleeping, jitters, etc. Green tea contains caffeine, and there are some side effects of excessive caffeine intake. Side effects may include a jittery feeling, nervousness, trouble sleeping, and a few others. Generally, this is only experienced when you consume too much caffeine. To help avoid the obvious effect of trouble sleeping at night, avoid consuming drinks and supplements containing caffeine later in the day after noon or so. Stomach upset A small percentage of people may experience minor stomach upset after consuming green tea. Not many people will notice this effect, but it is possible. If it happens to you, try to avoid consuming the product on an empty stomach. For powders, you can either mix them up into water, fruit juice or other drinks, or you can cap them up yourselves using empty gelcaps. One thing to keep in mind when taking these supplements is the caffeine content. While some supplements are decaffeinated, most are not. So, be aware of the caffeine content and when you are taking the supplement. Avoid taking caffeine later in the day, as it can lead to trouble sleeping. There are a few on our list of the best green tea supplements see below. As with any supplement, be sure to

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follow the instructions found on the product packaging. Do not take more than instructed. But before we get to that, here are some things you should look for when making your selection: Quality of ingredients – first things first, take a look at the ingredient label. Does it contain pure green tea extract? Are there any unnecessary fillers? Top green tea extracts will generally contain very few ingredients. Caffeine content – does the product contain caffeine? If so, how much? On our list we have both caffeinated and decaffeinated products, so if you want one or the other, look closely. Brand quality – who makes the product? Are they a quality company? We only chose products from well-reputed companies, but if you choose to shop elsewhere, make sure to do your research. Read green tea reviews to learn more about the companies behind these products. Value – how much does it cost? Make sure you compare on per-serving basis, rather than just looking at the prices of each package. Was this article helpful? Let us know if you liked the article.

Chapter 7 : Green tea - Wikipedia

Find great deals on eBay for green tea extract. Shop with confidence.

Green tea extract is its concentrated form, with just one capsule containing the same amount of active ingredients as an average cup of green tea. Like green tea, green tea extract is a great source of antioxidants. These have been credited with a range of health benefits, from promoting heart, liver and brain health to improving your skin and even reducing the risk of cancer 1. In fact, many weight loss products list it as a key ingredient. This article explores 10 science-based benefits of green tea extract.

High in Antioxidants The health benefits of green tea extract are mostly due to its high antioxidant content. Antioxidants can help reduce oxidative stress by fighting cell damage caused by free radicals. This cell damage is associated with aging and several diseases 2. Among the catechins in green tea, epigallocatechin gallate EGCG is the most researched and thought to provide the most health benefits. Studies have shown that green tea extract increases the antioxidant capacity of the body and protects against oxidative stress 3, 4, 5. For example, one study had 35 obese people take mg of green tea extract for eight weeks. Their blood antioxidant capacity increased from 1. Green tea extract boosts antioxidant capacity, which may help prevent various health problems caused by oxidative stress. Green tea extract is rich in antioxidants called catechins, which have been shown to increase antioxidant capacity and protect against oxidative stress.

May Promote Heart Health Oxidative stress increases fat buildup in the blood, which promotes inflammation in the arteries and leads to high blood pressure 6, 7. Fortunately, the antioxidants in green tea extract can decrease inflammation and help reduce blood pressure. They can also inhibit fat absorption in cells, helping reduce blood fat levels 7, 8, 9. One study had 56 obese people with high blood pressure take mg of green tea extract daily for three months. They showed a significant decrease in blood pressure, compared to the placebo group 9. Additionally, they experienced significant reductions in blood fat levels, including lower triglycerides and total and LDL cholesterol 9. Another study in 33 healthy people found that taking mg of green tea extract daily for eight weeks reduced total cholesterol by 3. Given that high blood pressure and high blood fat levels are risk factors for heart diseases, regulating them can promote heart health. The catechins in green tea may help reduce blood pressure and improve blood fat levels, which promotes heart health.

Good for the Brain The antioxidants in green tea extract, especially EGCG, have been shown to protect brain cells from oxidative stress. Furthermore, green tea extract can decrease the action of heavy metals like iron and copper, both of which can damage brain cells 15. One study had 12 people drink a soft drink containing. Then, while the participants worked on memory tests, brain images were obtained to assess brain function. The green tea extract group showed an increase in brain function and improved task performance, compared to the placebo group. Green tea extract has been shown to have a positive effect on brain health and memory, and may help protect against brain diseases.

Can Help With Weight Loss Green tea extract is rich in catechins, and it contains a decent amount of caffeine. Interestingly, it seems that this combination of ingredients is responsible for its weight loss properties 18, 19, 20. Both catechins and caffeine have been shown to assist in weight loss by regulating the hormones that can enhance thermogenesis 20, 21. Thermogenesis is the process by which your body burns calories to digest food and produce heat. Green tea has been shown to boost this process by making your body more effective at burning calories, which can lead to weight loss. One study had 14 people take a capsule containing a mixture of caffeine, EGCG from green tea and guarana extract before each meal. It then examined the effect on calorie burning. It found that the participants burned more calories, on average, in the following 24 hours. Green tea extract can aid weight loss by increasing the number of calories your body burns through thermogenesis.

Might Benefit Liver Function The catechins in green tea extract may also help reduce inflammation caused by some liver diseases like non-alcoholic fatty liver disease NAFLD 24. One study gave 80 participants with NAFLD either mg of green tea extract or a placebo daily for 90 days. The green tea extract group showed significant reductions in liver enzyme levels, which is an indication of improved liver health. Similarly, 17 patients with NAFLD took ml of green tea, which contained at least 1 gram of catechins, daily for 12 weeks. They had significant decreases in liver fat content, inflammation and oxidative stress. Green tea extract seems

to help improve liver function by decreasing inflammation and oxidative stress. Specialized cells known as stem cells produce new cells to replace those that die. This process keeps cells active and healthy. However, when this balance is disrupted, cancer can occur. The antioxidants in green tea extract, especially EGCG, seem to have favorable effects on the balance of cell production and death 27 , 28 , One study explored the effects of taking mg of green tea catechins per day for a year on patients at risk of developing prostate cancer. Green tea extract has been shown to help maintain cell health. It may even help prevent some types of cancer, though more research is needed. Its Components May Be Good for the Skin Whether taken as a supplement or applied to the skin, green tea extract has been shown to improve skin health A large review demonstrated that when applied to the skin, green tea extract can help treat a variety of skin problems, such as dermatitis, rosacea and warts. Also, as a supplement, it has been shown to help with skin aging and acne 31 , 32 , For example, a study showed that consuming 1, mg of green tea extract daily for four weeks resulted in significant reductions in red skin bumps caused by acne Moreover, both supplements and the topical application of green tea extract seem to help prevent skin conditions like loss of skin elasticity, inflammation, premature aging and cancer caused by exposure to UV rays 34 , A study in 10 people revealed that applying a cream containing green tea extract to the skin for 60 days resulted in improved skin elasticity Additionally, a study showed that applying green tea extract to the skin reduced skin damage caused by sun exposure Interestingly enough, adding green tea extract to cosmetic products has been shown to benefit the skin by providing a moisturizing effect Green tea extract has been shown to help prevent and treat several skin conditions. Fortunately, antioxidants like green tea catechins can reduce cellular damage and delay muscle fatigue 38 , 39 , Additionally, 16 sprinters who took green tea extract for four weeks demonstrated increased protection against oxidative stress produced by repeated sprint bouts Furthermore, green tea extract seems to benefit exercise performance. One study found that 14 men who consumed green tea extract for four weeks increased their running distance by Green tea extract increases antioxidant protection against oxidative damage caused by exercise. This translates to better exercise performance and recovery. May Help Lower Blood Sugar The catechins in green tea, especially EGCG, have been shown to enhance insulin sensitivity and regulate the production of blood sugar, both of which can lower blood sugar levels 44 , A study gave 14 healthy people a sugary substance and 1. The green tea group experienced better blood sugar tolerance after 30 minutes, and continued to show better results, compared to the placebo group Moreover, an analysis of 17 studies concluded that green tea extract is useful in decreasing fasting blood sugar levels. It can also help lower levels of hemoglobin A1C, which is an indicator of blood sugar levels over the past 2-3 months Green tea extract has been shown to increase insulin sensitivity and blood sugar tolerance, all while decreasing hemoglobin A1C and blood sugar levels. Green tea extract is available in liquid, powder and capsule forms. A wide selection can be found on Amazon. The liquid extract can be diluted in water, while the powder can be mixed into smoothies. However, it has a strong taste. The recommended dosage of green tea extract is between 3-5 mg per day. This amount can be obtained from 3-5 cups of green tea, or about 1. Some supplements contain only dry green tea leaves, while others contain isolated forms of one or more catechins. Both exceeding the recommended dose and taking it on an empty stomach may cause serious liver damage 26 , Green tea extract can be consumed in capsule, liquid or powder form. The recommended dose is 3-5 mg taken with food. The Bottom Line Thanks to its high antioxidant content, green tea extract has been shown to help improve health and body composition. Many studies have shown that green tea extract can promote weight loss, blood sugar regulation, disease prevention and exercise recovery. It can also help keep your skin and liver healthy, reduce blood fat levels, regulate blood pressure and improve brain health. It can be consumed in capsule, liquid or powder form. The recommended dose is 3-5 mg a day, and it is best taken with food. Whether you want to improve your general health or decrease your risk of disease, green tea extract is an easy way to add health-boosting antioxidants to your diet. Healthline and our partners may receive a portion of the revenues if you make a purchase using a link above.

Chapter 8 : Green Tea Extract by NOW: Best Prices At calendrierdelascience.com

The best dosage at which to take Green Tea Extract is between - mg per day. The dosage that you take would also depend on the strength and quality of the extract that you use.

However, the exact mechanisms by which tea interacts with cancerous cells is unknown. However, other studies have not found that tea can reduce cancer risk. The amount of tea required for cancer-preventive effects also varies widely in studies - from cups per day. The study followed over 40, Japanese participants between the ages of 40 and 79 for 11 years, starting in 1976. The participants who drank at least 5 cups of green tea per day had a significantly lower risk of dying especially from cardiovascular disease than those who drank less than one cup of tea per day. Green tea contains catechins, polyphenolic compounds that are thought to exert numerous protective effects, particularly on the cardiovascular system. *Journal of the American Heart Association*. The lead author of the study, Dr. You may make a small but positive lifestyle change to help lower the risk of stroke by adding daily green tea to your diet. Some have shown a lower risk of developing type 2 diabetes for green tea drinkers than for those who consumed no tea, while other studies have found no association between tea consumption and diabetes at all. Researchers studied an animal model for inflammatory skin diseases, often characterized by patches of dry, red, flaky skin caused by the inflammation and overproduction of skin cells. The research team said their findings suggest that green tea could be promising in the treatment of cognitive impairments associated with neuropsychiatric disorders, such as dementia. However, the researchers used a far higher dose of the active green tea chemical than would ever be found in the human body. More research is needed to see whether green tea is protective at a much lower dose, and to understand the mechanism involved. Further research is needed to firm up these theories. Nutritional breakdown of green tea Unsweetened brewed green tea is a zero calorie beverage. The caffeine contained in a cup of tea can vary according to the length of infusing time and the amount of tea infused. In general, green tea contains a relatively small amount of caffeine approximately milligrams per 8 ounce cup , compared with black tea, which contains about 50 milligrams and coffee with 95 milligrams per cup. Natural chemicals called polyphenols in tea are what are thought to provide its anti-inflammatory and anti-carcinogenic effects. Green tea is approximately percent polyphenols by weight, of which percent are catechins such as EGCG. Catechins are antioxidants that are said to help prevent cell damage. Types of green tea Green tea is available bottled and sweetened with sugar or an artificial sweetener, in single tea bags, loose-leaf, and in instant-powder. Green tea is available in many types, including: Green tea side effects and risks There are little to no known side effects or contraindications to drinking green tea for adults. However, the following risks or complications should be made clear: Caffeine sensitivity - those with severe caffeine sensitivities could experience insomnia , anxiety , irritability, nausea, or upset stomach. Other stimulants - if taken with stimulant drugs, green tea could increase blood pressure and heart rate. Green tea supplements contain high levels of active substances that can trigger side effects and interact with other herbs, supplements, or medications. Green tea supplements are unregulated by the FDA and may also contain other substances unsafe for health or with unproven health benefits. Always check with a doctor before starting any herb or supplement regimen. In particular, pregnant or breastfeeding women, those with heart problems or high blood pressure , kidney or liver problems, stomach ulcers, or anxiety disorders should not take green tea supplements or extracts. Further reading on green tea Various green tea products are available to purchase online. It is a good idea to compare different brands, and different types of green tea, to choose the most suitable one for you. Have you enjoyed reading about the potential health benefits of green tea? Take a look at our collection of articles about other fruits and vegetables. Alternatively, read our article about the top 10 healthy foods for your daily diet. We picked linked items based on the quality of products, and list the pros and cons of each to help you determine which will work best for you. We partner with some of the companies that sell these products, which means Healthline UK and our partners may receive a portion of revenues if you make a purchase using a link s above.

Chapter 9 : Everything You Need To Know About Green Tea Extract

Green Tree Life Sciences Premium Green Tea Extract is a good green tea product that captures the incredible benefits of this simple plant. With mg of pure extract and nothing else, this simple product is an easy way to consume green tea extract.

It is loaded with antioxidants and nutrients that have powerful effects on the body. These include improved brain function, fat loss, a lower risk of cancer and many other impressive benefits. Below are 10 health benefits of green tea that are supported by studies. Share on Pinterest Green tea is more than just liquid. Many of the plant compounds in the tea leaves do make it into the final drink, which contains large amounts of important nutrients

1. Tea is rich in polyphenols that have effects like reducing inflammation and helping to fight cancer. Green tea is about 30 percent polyphenols by weight, including large amounts of a catechin called EGCG. Catechins are natural antioxidants that help prevent cell damage and provide other benefits. These substances can reduce the formation of free radicals in the body, protecting cells and molecules from damage. These free radicals are known to play a role in aging and all sorts of diseases. It has been studied to treat various diseases and may be one of the main reasons green tea has such powerful medicinal properties
2. Green tea also has small amounts of minerals that are important for health. Try to choose a higher quality brand of green tea, because some of the lower quality brands can contain excessive amounts of fluoride
3. That being said, even if you choose a lower quality brand, the benefits still far outweigh any risk. These antioxidants can have various beneficial effects on health. Green tea does more than just keep you awake, it can also make you smarter. The key active ingredient is caffeine, which is a known stimulant. What caffeine does in the brain is to block an inhibitory neurotransmitter called Adenosine. This way, it actually increases the firing of neurons and the concentration of neurotransmitters like dopamine and norepinephrine
- 4 , 5. Caffeine has been intensively studied before and consistently leads to improvements in various aspects of brain function, including improved mood, vigilance, reaction time and memory
6. However, green tea contains more than just caffeine. It also has the amino acid L-theanine, which is able to cross the blood-brain barrier
7. L-theanine increases the activity of the inhibitory neurotransmitter GABA, which has anti-anxiety effects. It also increases dopamine and the production of alpha waves in the brain
- 7 , 8 , 9. Studies show that caffeine and L-theanine can have synergistic effects. The combination of the two is particularly potent at improving brain function
- 10 , Because of the L-theanine and the smaller dose of caffeine, green tea can give you a much milder and different kind of "buzz" than coffee. Many people report having more stable energy and being much more productive when they drink green tea, compared to coffee. Summary Green tea contains less caffeine than coffee, but enough to produce an effect. It also contains the amino acid L-theanine, which can work synergistically with caffeine to improve brain function. Green Tea Increases Fat Burning and Improves Physical Performance If you look at the ingredients list for any fat burning supplement , chances are that green tea will be on there. This is because green tea has been shown to increase fat burning and boost the metabolic rate , in human controlled trials
- 12 , Caffeine itself has also been shown to improve physical performance by mobilizing fatty acids from the fat tissues and making them available for use as energy
- 17 , Summary Green tea has been shown to boost the metabolic rate and increase fat burning in the short term, although not all studies agree. It is known that oxidative damage contributes to the development of cancer and that antioxidants may have a protective effect Green tea is an excellent source of powerful antioxidants, so it makes sense that it could reduce your risk of cancer, which it appears to do: Many observational studies have shown that green tea drinkers are less likely to develop several types of cancer. However, more high-quality research is needed to confirm these effects
- 25 , It is important to keep in mind that it may be a bad idea to put milk in your tea, because some studies suggest it reduces the antioxidant value Summary Green tea has powerful antioxidants that may protect against cancer. Multiple studies show that green tea drinkers have a lower risk of various types of cancer. Not only can green tea improve brain function in the short term, it may also protect your brain in old age. Summary The bioactive compounds in green tea can have various protective effects on the brain. Some studies show that they can kill bacteria and inhibit viruses like the influenza virus,

potentially lowering your risk of infections 31 , 32 , 33 , Streptococcus mutans is the primary harmful bacteria in the mouth. It causes plaque formation and is a leading contributor to cavities and tooth decay. Studies show that the catechins in green tea can inhibit the growth of Streptococcus mutans. Green tea consumption is associated with improved dental health and a lower risk of caries 35 , 36 , 37 , Multiple studies also show that green tea can reduce bad breath 39 , Summary The catechins in green tea may inhibit the growth of bacteria and some viruses. This can lower the risk of infections and lead to improvements in dental health, a lower risk of caries and reduced bad breath. Green Tea May Lower Your Risk of Type 2 Diabetes Type 2 diabetes is a disease that has reached epidemic proportions in the past few decades and now afflicts about million people worldwide. This disease involves having elevated blood sugar levels in the context of insulin resistance or an inability to produce insulin. Studies show that green tea can improve insulin sensitivity and reduce blood sugar levels Summary Some controlled trials show that green tea can cause mild reductions in blood sugar levels. It may also lower the risk of developing type 2 diabetes. Cardiovascular diseases, including heart disease and stroke, are the biggest causes of death in the world Studies show that green tea can improve some of the main risk factors for these diseases. This includes total cholesterol, LDL cholesterol and triglycerides Green tea also dramatically increases the antioxidant capacity of the blood, which protects the LDL particles from oxidation, which is one part of the pathway towards heart disease 46 , Observational studies show that green tea drinkers have a lower risk of cardiovascular disease. Several studies show that green tea leads to decreases in body fat , especially in the abdominal area 51 , One of these studies was a week randomized controlled trial in men and women. In this study, the green tea group had significant decreases in body fat percentage, body weight, waist circumference and belly fat Summary Some studies show that green tea leads to increased weight loss. It may be particularly effective at reducing the dangerous abdominal fat. However, given that green tea drinkers are at a lower risk of cardiovascular disease and cancer, it makes sense that it could help you live longer. In a study of 40, Japanese adults, those who drank the most green tea 5 or more cups per day were significantly less likely to die during an 11 year period Death of all causes: Death from heart disease: Summary Studies show that green tea drinkers are likely to live longer than non-tea drinkers.