

Protocols

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Ingredients	Dosage	Rationale	Reference
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Carcinogenesis is a complex process. In order to fully address cancer, one needs to consider a minimum of four functional areas: oxidative damage, immune system function, chronic inflammation, and detoxification. Hormonal balance must also be addressed for hormone-related cancers.

Integrative cancer support is available to address each of these areas and can be used as an adjunct to conventional therapies.

<p>Coenzyme Q10 (CoQ10) (ubiquinone) Natural form High purity</p>	<p>300 mg, twice daily</p> <p>Under doctor's supervision, may be used concurrent with conventional therapies.</p>	<p>Reduced CoQ10 levels have been linked to many chronic disease states. Cancer patients demonstrate significant CoQ10 deficiency (clinical data)¹</p> <ul style="list-style-type: none"> Well-documented antioxidant and free radical scavenger Protects mitochondrial DNA, protein, and lipids from oxidative damage Slows tumor growth in cancer patients² Significantly increases levels of IgG and T4-lymphocytes (clinical study)³ Increased cancer patient survival on an exploratory basis for periods of 5-15 years⁴ <p>To be effective, supplemental CoQ10 must cross the blood-brain barrier and increase cellular CoQ10 concentrations</p>	<ol style="list-style-type: none"> Portakal O, et al. Coenzyme Q10 concentrations and antioxidant status in tissues of breast cancer patients. <i>Clin Biochem.</i> 2000 Jun; 33(4):279-84. Lockwood K, et al. Partial and complete regression of breast cancer in patients in relation to dosage of coenzyme Q10. <i>Biochem Biophys Res Commun.</i> 1994 Mar30; 199(3):1504-8. Folkers K, et al. The activities of coenzyme Q10 and vitamin B6 for immune response. <i>Biochem Biophys Res Commun.</i> 1993 May 28; 193(1):88-92. Folkers K, et al. Survival of cancer patients on therapy with coenzyme Q10. <i>Biochem Biophys Res Commun.</i> 1993 Apr 15; 192(1):241-5.
<p>Reduced Glutathione (GSH) 10% Anthocyanins Blend: Beet Bilberry Black Currant European Elder L-Cysteine</p>	<p>Take with water on an empty stomach, 1-3 times daily.</p> <p>400 mg</p> <p>200 mg</p> <p>80 mg</p> <p>Under doctor's supervision, may be used concurrent with conventional therapies.</p>	<p>Reduced glutathione¹</p> <ul style="list-style-type: none"> Powerful antioxidant Essential to cellular detoxification and production of coenzymes Recycles antioxidant vitamins E and C <p>Anthocyanins²</p> <ul style="list-style-type: none"> Involved in free radical scavenging, anti-carcinogenesis, and induce of apoptosis of tumor cells² <p>Blend³</p> <ul style="list-style-type: none"> Enhances glutathione levels (clinical study) Protects against the toxic effects of cytotoxic agents and multi-drug resistance Inhibits tumor growth (in colon cancer patients and <i>in vitro</i>) Causes tumor regression May reverse weight loss (cachexia) Statistically significant improvements in Karnofsky's scale 	<ol style="list-style-type: none"> Sung JH, et al. Protective effect of glutathione in HIV-1 lytic peptide 1-induced cell death in human neuronal cells. <i>J Neurovirol.</i> 2001 Oct;7(5):454-65. Hou DX. Potential mechanisms of cancer chemoprevention by anthocyanins. <i>Curr Mol Med.</i> 2003 Mar;3(2):149-59. Garcia-Giralt E, et al. Preliminary study of GSH L-cysteine anthocyan [brand name] in metastatic colorectal carcinoma with relative denutrition. Presented at the European Cancer Conference. September 14-18, 1997. <i>Eur J Cancer.</i> 1997;33(sup 8).

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<p>Fermented Papaya Preparation (FPP)</p>	<p>6-9 g daily, for the first 2-3 days, then 3 g daily thereafter. Take in between meals. Dissolve in mouth. Do not take with water. Do not eat or drink anything 5 minutes before or after.</p>	<p>Additional Oxidative Stress Reduction for Maximum support</p> <ul style="list-style-type: none"> • Potent antioxidant and free radical scavenger (laboratory study)¹ • Decreases lipid peroxide levels and increases superoxide dimutase (SOD) activity¹ • Increases immunostimulatory activity in macrophages² • In the presence of infection, enhances nitric oxide synthesis, thereby improving host immune defenses² 	<ol style="list-style-type: none"> 1. Imao K, et al. Free radical scavenging activity of fermented papaya preparation and its effect on lipid peroxide level and superoxide dismutase activity in iron-induced epileptic foci of rats. <i>Biochem Mol Biol Int.</i> 1998 Jun;45(1):11-23. 2. Rimbach G, et al. Nitric oxide synthesis and TNF-alpha secretion in RAW 264.7 macrophages: mode of action of a fermented papaya preparation. <i>Life Sci.</i> 2000 Jun 30; 67(6):679-94.

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<p>IP-6 (inositol hexaphosphate) Inositol Maitake mushroom (9 mg pure D-fraction) POA Cat's Claw (pentacyclic chemotype) (1.3% pentacyclic oxindole alkaloids (POAs))</p>	<p>Take twice daily. Begin 2 days after chemotherapy and stop 1 day before treatment. 800 mg 220 mg 30 mg 10 mg</p>	<p>Proliferation and apoptosis are two key processes determining normal tissue homeostasis. Unregulated cell proliferation together with the suppression of apoptosis provides conditions favorable for abnormal tissue growth, which ultimately can lead to the uncontrolled expansion and invasion characteristic of cancer</p> <p>IP-6 and Inositol</p> <ul style="list-style-type: none"> • Reduces cell proliferation and increases differentiation of malignant cells¹ • One to one molecular ratio enhances natural killer cell activity by up to 49.4% (<i>in vitro</i>)² <p>Maitake Mushroom</p> <ul style="list-style-type: none"> • Rich source of polysaccharides, such as D-fraction and beta-glucans • Enhances the cell-mediated immune response by increasing macrophage, T-cell, and natural killer cell activity, and by increasing interleukin-1 production³ • D-fraction inhibits carcinogenesis³ <p>Cat's Claw</p> <ul style="list-style-type: none"> • Increases lymphocyte proliferation and white blood cell counts, particularly killer T cell counts • Improves DNA repair following irradiation⁴ • Increased vitality, improved tolerance of chemotherapy and radiation, and significantly reduced rate of recurrence in 60 patients with brain tumors found (clinical study)⁵ 	<ol style="list-style-type: none"> 1. Shamsuddin AM. Inositol phosphates have novel anticancer function. <i>J Nutr.</i> 1995;125:725-732. 2. Baten A, et al. Inositol-phosphate-induced enhancement of natural killer cell activity correlates with tumor suppression. <i>Carcinogenesis.</i> 1989;10(9):1595-1598. 3. Matsui K, et al. Effects of maitake (<i>Grifola frondosa</i>) D-fraction on the carcinoma angiogenesis. <i>Cancer Lett.</i> 2001;172:193-8. 4. Sheng Y, et al. Enhanced DNA repair, immune function and reduced toxicity of [brand name], a novel aqueous extract from <i>Uncaria tomentosa</i>. <i>J Ethnopharmacology.</i> 2000;69:115-126. 5. [Brand name] in the auxiliary treatment with chemotherapy and radiotherapy. Unpublished data.

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<p>Blend of: Pancreatic enzymes 10X (full strength, undiluted) Protease 81,250 USP Amylase 81,250 USP Lipase 6500 USP Trypsin Papain Bromelain Amylase Lipase Lysozyme Chymotrypsin</p>	<p>Take 3 times daily. 325 mg 75 mg 50 mg 50 mg 10 mg 10 mg 10 mg 2 mg</p>	<ul style="list-style-type: none"> Improves cancer patient immune system function by breaking down abnormal proteins generated during the course of disease¹ Significantly reduces disease symptoms (e.g., nausea, vomiting, changes in appetite, stomach pain or stomach disorder, tiredness, depression, memory or concentration disorder, sleep disturbance, dizziness, irritability, dyspnea at rest, dyspnea during activity, headache, tumor pain, cachexia, skin disorders and infections)² May prolong survival (epidemiological study)^{2,3} Associated with reduced adverse reactions to chemotherapy and radiation treatment² 	<ol style="list-style-type: none"> Sakalova A, et al. Density of adhesive proteins after oral administration of proteolytic enzymes in multiple myeloma. <i>Vnitr Lek.</i> 1995 Dec;41(12):822-6. Popiela T, et al. Influence of a complementary treatment with oral enzymes on patients with colorectal cancers – an epidemiological retrospective cohort study. <i>Cancer Chemother Pharmacol.</i> 2001 Jul;47 Suppl:S55-63. Wald M, et al. Polyzyme preparation [brand name] inhibits growth of solid tumors and development of experimental metastases in mice. <i>Life Sci.</i> 1998; 62(3):PL43-8.
<p>Clinically Studied Blend: Wild indigo <i>Echinacea purpurea</i> and <i>pallid</i> (coneflower) Thuja (white cedar leaf)</p>	<p>Take 3 times daily. 58.5 mg fixed combination Studied for intermittent use after chemo/ radiation to increase white blood cell counts and limit duration of nadir</p>	<ul style="list-style-type: none"> Reduces toxicity associated with intermittent radiotherapy¹⁻⁴ Stimulates T-cell proliferation and increases differentiation into fully functional helper T-cells Also increases phagocytosis <p>In cases where chemotherapy and/or radiation is not interrupted, or there is severe bone marrow depression, the combination did not provide significant results.</p>	<ol style="list-style-type: none"> Bendel R, et al. Additional treatment with [Echinacea herbal blend] in patients with chemo-radiotherapy treatment of advanced breast cancer. <i>Onkologie.</i> 1989 Jun;12 Suppl 3:32-38. Bendel R, et al. Supplementary treatment with [Echinacea herbal blend] of female patients undergoing curative adjuvant irradiation following breast cancer. <i>Strahlenther Onkol.</i> 1988 May;164(5):278-283. Pohl P. Treatment of radiation-induced leukopenia with [Echinacea herbal blend]. <i>Ther Ggw.</i> 1970 Jun;109(6):901. Pohl P. On the therapy of irradiation-induced leucopenia with [Echinacea herbal blend]. <i>Med Klin.</i> 1969; 64(35):1546-7.

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<p>Omega-3 Fatty Acids 14-18% EPA* 8.3-11.7% DHA* Pharmaceutical grade High purity Naturally stable</p> <p>*EPA=eicosapentaenoic acid *DHA=docosahexaenoic acid</p>	<p>1.5 – 5 g daily</p>	<ul style="list-style-type: none"> • Possesses anti-inflammatory and immunomodulatory properties • Regulates macrophage activity and TNF-alpha and interleukin production¹⁻³ • Decreases proliferation and induces differentiation of cancer cells • Possesses anti-proliferative and anti-cachectic actions in malignancy (laboratory and <i>in vitro</i> studies)⁴ • Slows the growth of experimental cancer in scientific studies, increases the efficacy of chemotherapy, and reduces the side effects of the chemotherapy or of the disease itself⁵ • May slow or stop the growth of metastatic cancer cells, increase longevity of cancer patients and improve their quality of life⁵ 	<ol style="list-style-type: none"> 1. Erickson KL, et al. Dietary fish oil modulation of macrophage tumoricidal activity. <i>Nutrition</i>. 1996 Jan;12(1 Suppl):S34-8. 2. Lo CJ, et al. Fish oil modulates macrophage P44/P42 mitogen-activated protein kinase activity induced by lipopolysaccharide. <i>JPEN J Parenter Enteral Nutr</i>. 2000 May-Jun;24(3):159-63. 3. Caughey GE, et al. The effect on human tumor necrosis factor alpha and interleukin beta production of diets enriched in n-3 fatty acids from vegetable oil or fish oil. <i>Am J Clin Nutr</i>. 1996 Jan;63(1):116-22. 4. Jho DH, et al. Role of omega-3 fatty acid supplementation in inflammation and malignancy. <i>Integr Cancer Ther</i>. 2004 Jun;3(2):98-111. 5. Hardman WE. Omega-3 fatty acids to augment cancer therapy. <i>J Nutr</i>. 2002 Nov; 132(11 Suppl):3508S-3512S.

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<p>Dietary fiber Fiber blend containing: Psyllium husk Oat bran Guar gum Pectin (from citrus fruit) Marshmallow root</p>	<p>2 g daily 1727 mg daily</p>	<p>General Detoxification Support</p> <ul style="list-style-type: none"> Absorbs toxins and carcinogens, such as secondary bile acids and diacylglycerol, while in the intestinal tract¹ Augments the immune system by enhancing natural killer cell activity¹ To be effective, encapsulated fiber products must adequately disperse following ingestion (<i>in vitro</i> study)² 	<ol style="list-style-type: none"> Reddy BS. Prevention of colon carcinogenesis by components of dietary fiber. <i>Anticancer Res.</i> 1999 Sep-Oct;19(5A):3681-3. Study on the comparative dispersion of encapsulated fiber blends. Unpublished data. June 2003.
<p>Silybin (from milk thistle extract) bound to phosphatidylcholine for enhanced absorption and bioavailability</p>	<p>120 mg, 1-2 times daily</p>	<p>Additional Liver Detoxification Support.</p> <ul style="list-style-type: none"> Improves body's detoxification and cleansing processes by increasing bile production and flow Silymarin increases glutathione production, reducing free radical damage to liver¹ Also increases hepatocyte protein synthesis, which promotes regeneration of the liver¹ Prevents cancer angiogenesis² Silybin bound to fat-soluble phosphatidylcholine is more easily absorbed than unbound forms (clinical study)³ 	<ol style="list-style-type: none"> Gonzalez-Correa JA, et al. Effects of silymarin MZ-80 on hepatic oxidative stress in rats with biliary obstruction. <i>Pharmacology.</i> 2002 Jan;64(1):18-27. Singh RP, et al. Silibinin strongly inhibits growth and survival of human endothelial cells via cell cycle arrest and downregulation of survivin, Akt and NF-kappaB: implications for angioprevention and antiangiogenic therapy. <i>Oncogene.</i> 2005 Feb 10;24(7):1188-202 Barzaghi N, et al. Pharmacokinetic studies on IdB 1016, a silybin-phosphatidylcholine complex, in healthy human subjects. <i>Eur J Drug Metab Pharmacokinet.</i> 1990 Oct-Dec;15(4):333-8.
<p>Stable, Gastric-Protected Probiotic blend of: <i>Lactobacillus acidophilus</i> and <i>Bifidobacterium longum</i></p>	<p>1 billion CFU daily</p>	<p>Restoration of Healthy Intestinal Flora Acid-stable probiotics have been shown to balance the intestinal flora in immune compromised individuals</p> <ul style="list-style-type: none"> Enhance detoxification of DNA-toxic substances in intestines; associated with anti-carcinogenic effects^{1,2} To provide full health benefits, supplement must survive gastric conditions and be released in the intestine (<i>in vitro</i> study)³ 	<ol style="list-style-type: none"> Goossens D, et al. Probiotics in gastroenterology: indications and future perspectives. <i>Scand J Gastroenterol Suppl.</i> 2003(239):15-23. Wollowski I, et al. Protective role of probiotics and prebiotics in colon cancer. <i>Am J Clin Nutr.</i> 2001 Feb;73(2 Suppl_):451S-455S. Probiotic Comparison Testing. Unpublished data. June 3, 2002.

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Calcium D-glucarate	1.5 g, 3 times daily	<p>Elevated beta-glucuronidase activity has been associated with an increased risk for various cancers, particularly hormone-dependent cancers such as breast, prostate, and colon cancers.</p> <ul style="list-style-type: none"> • Calcium D-glucarate inhibits activity of β-glucuronidase^{1,2} • It also helps regulate estrogen metabolism¹ 	<ol style="list-style-type: none"> 1. Walaszek Z, et al. Metabolism, uptake, and excretion of a D-glucaric acid salt and its potential use in cancer prevention. <i>Cancer Detect Prev.</i> 1997; 21(2):178-90. 2. Walaszek Z, et al. Antiproliferative effect of dietary glucarate on the Sprague-dawley rat mammary gland. <i>Cancer Lett.</i> 1990 Jan; 49(1):51-7.
Stable, Bioavailable Diindolylmethane (DIM), co-solubilized with vitamin E and phosphatidylcholine, for enhanced absorption and bioavailability	120 mg blend (30 mg DIM) daily	<ul style="list-style-type: none"> • Acts as a natural hormone detoxifier, helping the body to efficiently and effectively break down and excrete estrogen • Increases the ratio of desirable 2-OH estrogen over the undesirable 16-OH estrogen metabolites, thereby preventing estrogen dominance • Demonstrated anti-proliferative effects against prostate, breast, and cervical cancer cells (<i>in vitro</i>)^{1,2} • Also plays a significant role in the regulation of dihydrotestosterone (DHT), a potent androgen² • 30 days supplementation in postmenopausal women with a history of early-stage breast cancer significantly increased the 2-hydroxylation of estrogen urinary metabolites (clinical study)³ 	<ol style="list-style-type: none"> 1. Hong C, et al. 3, 3'-Diindolylmethane (DIM) induces a G (1) cell cycle arrest in human breast cancer cells that is accompanied by Sp1-mediated activation of p21 (WAF1/CIP1) expression. <i>Carcinogenesis.</i> 2002 Aug; 23(8):1297-305. 2. Le HT, et al. Plant-derived 3, 3'-Diindolylmethane is a strong androgen antagonist in human prostate cancer cells. <i>J Biol Chem.</i> 2003; 278(23):21146-45. 3. Dalessandri KM, et al. Pilot study: effect of 3, 3'-diindolylmethane supplements on urinary hormone metabolites in postmenopausal women with a history of early-stage breast cancer. <i>Nutr Cancer.</i> 2004; 50(2):161-7.

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Ingredients	Dosage	Rationale	Reference
<p>Blend of:</p> <p>Vitamin D3 Turmeric (<i>Curcuma longa</i>) (85-100% curcumin) Green Tea (<i>Camellia sinensis</i>) (70% polyphenols) Calcium D-Glucarate Diindolymethane (DIM) Grape (<i>Vitis vinifera</i>) (90% polyphenols) Maitake (<i>Grifola frondosa</i>) (30% pure D-fraction)</p>	<p>Take twice daily.</p> <p>400 IU 1000 mg</p> <p>500 mg</p> <p>200 mg 30 mg 100 mg</p> <p>90 mg</p>	<p>Alternate Breast Cancer Specific Support— may eliminate DIM from protocol if this option selected as it contains clinical levels of DIM. Each ingredient provides demonstrated support for breast cancer treatment through one or more of the following pathways: antioxidant support, hormone detoxification, or immune system activation</p> <p>Vitamin D (cholecalciferol)¹</p> <ul style="list-style-type: none"> • Enhances the body’s natural immune system • Reduces unhealthy cellular proliferation and TNF-α-induced defense of breast cells <p>Turmeric²</p> <ul style="list-style-type: none"> • Reduces systemic inflammation • Inhibits COX-2 preferentially- not inhibiting the activity of the beneficial COX-1 enzyme • Reduces unhealthy breast cells proliferation <p>Green tea & EGCG³</p> <ul style="list-style-type: none"> • Antioxidant and powerful free radical scavenger; also increases activity of antioxidant production systems • Inhibits breast cancer cell proliferation • Reduces carcinogenesis • Inhibits COX-2 enzyme activity • Reduces breast cell mutations, which can lead to breast cancer development <p>Grape seed⁴</p> <ul style="list-style-type: none"> • Quenches free radicals; more powerful antioxidant activity than Vitamin C and E • Protects cells from oxidative damage by improving cellular redox status <p>Maitake mushroom D-fraction⁵</p> <ul style="list-style-type: none"> • Suppresses tumor growth (clinical study) • Enhances natural killer cells activity by 1.2 to 2.7 times (clinical study) <p>Calcium D-glucarate – see Rationale and References above.</p> <p>DIM - see Rationale and References above.</p>	<ol style="list-style-type: none"> 1. Weitsman GE, et al. Vitamin D enhances caspase-dependent and independent THF-induces breast cancer cell death: the role of reactive oxygen species. <i>Ann NY Acad Sci.</i> 2003 Dec; 1010:437-40. 2. Tilak JC, et al. Antioxidant availability of turmeric in relation to its medicinal and culinary uses. <i>Phytother Res.</i> 2004; 18(10):798-804. 3. Roy AM, et al. Epigallocatechin-3-gallate induces apoptosis in estrogen receptor-negative human breast carcinoma cells via modulation in protein expression of p53 and Bax and caspase-3 activation. <i>Mol Cancer Ther.</i> 2005 Jan; 4(1):81-90. 4. Bagchi D, et al. Oxygen free radical scavenging abilities of Vitamin C and E, and a grape seed proanthocyanidins extract in vitro. <i>Res Commun Mol Pathol Pharmacol.</i> 1997; 95(2):179-89. 5. Kodama N, et al. Effect of Maitake (<i>Grifola Frondosa</i>) D-Fraction on the activation of NK cells in cancer patients. <i>J Med Food.</i> 2003; 6(4):371-7.

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<p>Zinc Saw Palmetto (<i>Serenoa repens</i>) Pumpkin (<i>Cucurbita pepo</i>) Pygeum (<i>Pygeum africanum</i>) Stinging Nettle (<i>Urtica dioica</i>) Lycopene</p>	<p>Take twice daily. 15 mg 160 mg 100 mg 50 mg 50 mg 1 mg</p>	<p>Additional Prostate Support</p> <ul style="list-style-type: none"> • Zinc is critical for proper cell growth, proliferation, metabolism and migration¹ • Saw palmetto inhibits prostate cell growth by up to 20-25% and cancer cell growth by up to 50% (<i>in vitro</i>); also reduces inflammation (COX-2)² • Pumpkin mildly inhibits 5-alpha reductase (enzyme which converts testosterone to dihydrotestosterone) (<i>in vivo</i>); reduces inflammation; and reduces prostate symptoms³ • Pygeum improved micturition in 66% men after two months (clinical study)⁴ • Meta analysis of 18 randomized controlled trials involving 1,562 men found that men who received pygeum extract were more than twice as likely to report improvements; nocturia was reduced by 19%, residual urine volume by 24% and peak urine flow increased by 23%⁵ • Stinging nettle improved lower urinary tract symptoms for 81% of patients; peak flow rate increased 2.5 times that of placebo⁶ • Research suggests lycopene may decrease growth of prostate cancer⁷ 	<ol style="list-style-type: none"> 1. Costello LC, et al. The clinical relevance of the metabolism of prostate cancer; zinc and tumor suppression: connecting the dots. <i>Mol Cancer</i>. 2006 May 15;5(1):17 [Epub ahead of print] 2. Goldmann WH, et al. Saw palmetto berry extract inhibits cell growth and Cox-2 expression in prostatic cancer cells. <i>Cell Biol Int</i>. 2001;25(11):1117-24. 3. Zhang X, et al. Effect of the extracts of pumpkin seeds on the urodynamics of rabbits: an experimental study. <i>J Tongji Med Univ</i>. 1994;14(4):235-8. 4. Barlet A, et al. Efficacy of Pygeum africanum extract in the medical therapy of urination disorders due to benign prostatic hyperplasia: evaluation of objective and subjective parameters. A placebo-controlled double-blind multicenter study. <i>Wien Klin Wochenschr</i>. 1990 Nov 23;102(22):667-73. 5. Ishani A, et al. Pygeum africanum for the treatment of patients with benign prostatic hyperplasia: a systematic review and quantitative meta-analysis. <i>Am J Med</i>. 2000 Dec 1;109(8):654-64. 6. Safarinejad MR. Urtica dioica for Treatment of Benign Prostatic Hyperplasia: A Prospective, Randomized, Double-Blind, Placebo-Controlled, Crossover Study. <i>J Herb Pharmacother</i>. 2005;5(4):1-11. 7. Kucuk O, et al. Phase II randomized clinical trial of lycopene supplementation before radical prostatectomy. <i>Cancer Epidemiol Biomarkers Prev</i>. 2001;10:861-868.

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<p>Calcium D-Glucarate Green Tea (<i>Camellia sinensis</i>) Maitake (<i>Grifola frondosa</i>) Mushroom Lycopene</p>	<p>Take twice daily with meals. 200 mg 50 mg 55 mg 2.5 mg</p>	<p>Calcium D-glucarate</p> <ul style="list-style-type: none"> • Elevated beta-glucuronidase activity has been associated with an increased risk for various cancers, particularly hormone-dependent cancers such as breast, prostate, and colon cancers. • Calcium D-glucarate inhibits activity of β-glucuronidase^{1,2} • Green tea inhibits prostate cancer development, progression, and metastasis^{3,4} • Maitake mushroom activates immune cells and possesses anti-tumor activities⁵ 	<ol style="list-style-type: none"> 1. Walaszek Z, et al. Metabolism, uptake, and excretion of a Dglucaric acid salt and its potential use in cancer prevention. <i>Cancer Detect Prev.</i> 1997;21:178-190. 2. Walaszek Z. Potential use of D-glucaric acid derivatives in cancer prevention. <i>Cancer Lett</i> 1990;54:1–8. 3. Gupta S, et al. Inhibition of prostate carcinogenesis in TRAMP mice by oral infusion of green tea polyphenols. <i>Proc Natl Acad Sci U S A.</i> 2001;98:10350-10355. 4. Chung LY, et al. Induction of apoptosis by green tea catechins in human prostate cancer DU145 cells. <i>Life Sci.</i> 2001;68:1207-1214. 5. Matsui K, et al. Effects of maitake (<i>Grifola frondosa</i>) D-Fraction on the carcinoma angiogenesis. <i>Cancer Lett.</i> 2001;172:193-198.

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ADDITIONAL SUPPORT FOR PROSTATE CANCER PREVENTION OR ESTROGEN DOMINANCE			
Stable, Bioavailable Diindolylmethane (DIM), co-solubilized with vitamin E and phosphatidylcholine, for enhanced absorption and bioavailability	30 mg daily	<p>Estrogen Balance</p> <ul style="list-style-type: none"> • Shifts estrogen metabolism to C-2 pathway in liver, which increases ratio of 2-hydroxy and 2-methoxy estrogen metabolites over 16-hydroxyestrone estrogen metabolites¹ • Exhibits potent antiproliferative and antiandrogenic properties in androgen-dependent human prostate cancer cells² • Also reduces intracellular and secreted PSA levels² 	<ol style="list-style-type: none"> 1. Zeligs MA. Safer estrogen with phytonutrition. <i>Towns Lett.</i> 1999;189:83-88. 2. Le HT, et al. Plant-derived 3,3'-Diindolylmethane is a strong androgen antagonist in human prostate cancer cells. <i>J Biol Chem.</i> 2003 Jun 6;278(23):21136-45.
Calcium D-Glucarate	0.5 – 1.5 g three times daily with meals	<p>Estrogen Detoxification</p> <ul style="list-style-type: none"> • Detoxifies estrogen and xenoestrogen by inhibiting beta-glucuronidase and preventing hydrolysis of their glucuronides¹ 	<ol style="list-style-type: none"> 1. Walaszek Z, et al. Metabolism, uptake, and excretion of a D-glucaric acid salt and its potential use in cancer prevention. <i>Cancer Detect Prev.</i> 1997;21(2):178-90.

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