

TUMOR GENE-NUTRITION SUPPORT TO HELP NORMALIZE 8.3.18

This is not a complete list and should be updated & added to regularly, it's a good start!

Angiogenin-1 & 2: gum arabic (Acacia senegal), Lactoferrin (also helps get rid of excess iron).

c-erb-B1 (aka HER 1 egf-r): same as the VEGF.

c-erb-B2 (aka HER2/NEU): emodin, quercetin, EPO, BCSO, all IGF-1

COX 2 (cyclo-oxygenase 2): Boswellia, bee propolis, fish oil, flavonoids (apigenin, luteolin, genistein, quercetin, EGCG,); infamma-Blox; grape seed oil; parthenolide (fever few); resveratrol; echinacea (M-H alkylamides)

EGF (epidermal growth factor): use all VEGF products, genistein, IP6 (inositol) hexaphosphate), grape seed extract.

EpCAM: PKC (protein kinase c): cape (caffeic acid phenethyl ester-- active component of propolis); curcumin, quercetin, EGCG, fish oils, selenium, modified citrus pectin. PTK (protein tyrosine kinase): genistein, quercetin, EGCG, resveratrol, melatonin, D3 (watch the 1,25OH D3 level not just the 25 OH),

ESTROGEN RECEPTOR +: chrysin, flaxseed (fresh), cruciferous veg., avocados, organic milk, eggs, ↓ body fat, xenohormones (BPA, soaps, shampoos, makeup, moisturizers etc.), careful with DHEA, pregnenolone

FGF (fibroblast growth factor), and **PDGF** (platelet derived growth factor): use the same as for **VEGF**.

H-TERT (human telomerase M2, aggressive cellular enzyme): hyperthermia, ligands (chlorophyll, B-12, EDTA), organ specific PMG's, RNA, curcumin, hypericin, fish oil, selenium, vitamin E (Unique E), CAPE (caffeic acid phenethyl ester) found in propolis (from honey bees), flavonoids (apigenin, luteolin, quercetin, genistein, EGCG), IP6.

IGF-r-1 & 2: Monoterpenes (limonene, perillyl alcohol, geraniol), garlic, fish oil, IP6, no sugar, ALA,

IκB, NFκB (a, d, e): Andrographis, curcumin, Boswellia, fish oils, alpha lipoic acid, NrF2, Kaprex®, berberine.

MDR1: ABCG2 inhibitors—quercetin, parsley, onions, ginkgo, red wine, dark chocolate >70% cocoa, blueberries, black, green & oolong tea, bananas, galphenine (concern-anaphylaxis & acute kidney failure), verapamil, ketoconazole, ashwagandha. **See below MRP for more**

MMP (matrix metalloproteinase—multi resistant proteins): PSK (Coriolus mushroom), panax ginseng, emodin, anthocyanidin (berries-blue, bilberry, elder), genistein, curcumin, EGCG, vitamin C, proteolytic enzymes. Plus substances found in P16 and VEGF.

MRP : ABCG2 inhibitors : mostly the flavonoids—i.e. quercetin, curcumin, allicin, capsaicin, genistein, gingerol, hesperetin (flavanones) - tangelo, orange juice, tangerine juice, lemon juice), kaempferol – (raw ginger, raw endives, raw spinach), resveratrol, rutin, onions, dark chocolate >70% cocoa, black tea, green tea, ginkgo,) , parsley, blueberries, citrus, red wine, thyme, parsley.

NR3C4-A (testosterone): soy, green tea, polyphenol, avoid Tribulus & DHEA, ↓ strenuous exercise & omega 3 oils, careful use pregnenolone & progesterone.

NR3C4-B (DHT): pygeum, nettles, pumpkin seeds & oil, green tea, soy isoflavones, beta sitosterols, L-lysine, zinc, vitamin D3, GLA/EPA, plus all mentioned under testosterone.

P16 (apoptosis): Boswellia, garlic, EPA/DHA, flavonoids, hypericin (St. John's Wort), monoterpenes, resveratrol, selenium, vitamin C, vitamin E succinate, glutathione enhancing agents—NAC, trimethylglycine, ALA, RNA (careful with IV form: GST), melatonin, emodin, parthenolide (sesquiterpene lactone, feverfew), alpha lipoic acid, perillyl alcohol, Cellular Vitality®.

P180 (monoclonal antibody against P-glycoprotein), licorice; shark liver oil; EGCG; curcumin; amygdalin b-17; soy miso; salvestrol; genestein; Reishi; gamma e; pomegranate; anthocyanidin

P27 (cell arrest, kinase inhibition): vitamin Ae-Mulsion Forte, flavonoids, apigenin, EGCG (epigallocatechin gallate), genistein, silymarin, 1,25 OH D3, vitamin E succinate, Cataplex A.

P53 (cell cycle regulator): melatonin, curcumin, resveratrol, ginsenosides, vitamin E succinate, ↓ iron &/or copper, quercetin, (molybdenum), folate, I3C, cruciferous foods, EGCG, genistein, garlic; silymarin; gamma e; grape seed; NAC; quercetin; selenomethionine

Ras/Raf/MEK, Erk: lovastatin, red rice yeast, high dose vitamin C, emodin, genistein, apigenin-flavone (parsley, celery, thyme, rutabagas), peppermint, beta carotene, CoQ10, garlic, limonene, omega 3 oils.

TGF-b (transforming growth factor beta): vitamin A, genistein, D3, curcumin, quercetin, melatonin, IP6, resveratrol, PSK (Krestin), monoterpenes, Epimune (Coruolus versicolor, Turkey tail).

VEGF (vascular endothelial growth factor): anthocyanidin, butcher's broom, horse chestnut, proanthocyanidins, gotu kola, feverfew, artemisinin, c-statin, NAC, bilberry, genistein, plus the naturals for the **P16** tumor related gene, grape seed extract.

THESE ARE NOT ALL-INCLUSIVE LISTS AND WE RECOMMEND THAT YOU DO YOUR OWN DUE DILIGENCE TO ADD OTHERS BY RESEARCH OF THESE TUMOR RELATED GENES MUTATIONS

John Boik – *Natural Compounds in Cancer Therapy: Promising Nontoxic Antitumor Agents from Plants & Other Natural Sources*, Oregon Medical Press 2001, 0964828014 ISBN

Lise N. Alschuler, Karolyn A. Gazella - *The Definitive Guide to Cancer, 3rd Edition: An Integrative Approach to Prevention, Treatment, and Healing*, Celestial Arts; 3 edition 2010, 978-1587613586 ISBN

Boik, John - *Cancer & Natural Medicine: A Textbook of Basic Science and Clinical Research* 1st edition, Oregon Medical Press 1995, ASIN: B008Q42DLQ

Noe´ JE. *Naturopathic Integrative Oncology*, Toronto, Ontario: CCNM Press; 2012. 9781897025345
ISBMcKinney N. *Naturopathic Oncology: An Encyclopedic Guide For Patients & Physicians 2nd Edition*, Vancouver, BC, Canada: Liaison Press; 2012. 9781894953986 ISBN

McKinney N. *Naturopathic Oncology: An Encyclopedic Guide For Patients & Physicians 2nd Edition*, Vancouver, BC, Canada: Liaison Press; 2012. 9781894953986 ISBN