ImmunoPCTN®

Overview: ImmunoPCTN® promotes Cellular Health and increases Oncological Nutritional Support.

Discussion

Four major methods of inhibiting uncontrolled cell division includes: reduction of oxidative damage, minimize overproduction of inflammatory biochemicals, strengthen immunity and enhance detoxification of environmental toxins.

ImmunoPCTN® is a polybotanical formula created for the promotion of cellular health and to discourage uncontrolled cell division.

ImmunoPCTN® contains scientifically evaluated natural compounds including: Curcumin, Modified Citrus Pectin, and extracts from medicinal reishi mushroom, green tea, grape seed, boswellia and pomegranate.
Clinical Application

Curcumin (Curcuma longa)

Curcumin is one of the three curcuminoids (curcumin, demethoxycurcumin and bisdemethoxycurcumin) identified in a turmeric curry spice. Along with reducing oxidative damage to DNA, curcumin demonstrated anti-inflammatory activity by inhibiting the pro-inflammatory mediators, phospholipase A2 (PLA2), cyclooxygenase -2 (COX-2), 5-lipoxygenase (5-LOX) and nuclear factor kappa-light-chain-enhancer of activated B cells (NF-κB). This ancient spice also induces cell-cycle arrest and natural cell death (apoptosis). However, not all curcuminoids have the same potency for anti-oxidative and anti-inflammatory effectiveness. C3 Curcumin Complex® is used in ImmunoPCTN® was evaluated and certified for its therapeutic efficacy.

Modified Citrus Pectin (MCP)

Modified Citrus Pectin is a complex water soluble non-digestible polysaccharide, which is easily absorbed by human body, prepared from the peel and pulp of citrus fruits by the depolymerization of un-absorbable citrus pectin polysaccharides. Several studies confirmed MCP activity against breast, prostate, and colon abnormalities. MCP also demonstrated strong activity with uncontrolled cell division. Most importantly, combination treatment of MCP with other polybotanical supplements further suppressed breast and prostate abnormal cell activity. Finally, MCP increased the prostate-specific antigen doubling time (PSADT) in men with prostate cancer in the clinical study. In summary, combination of MCP with other natural compounds further enhances therapeutic efficacy of the ImmunoPCTN formula.
Reishi mushroom (Ganoderma lucidum, Lingzhi)

Reishi mushroom has been used for centuries in Asian countries to improve health and promote longevity. Several studies suggested that Reishi can be used for the prevention and co-management of many diseases including those in oncology\(^6\). Reishi possesses cytotoxic, cytostatic, anti-metastatic, anti-inflammatory but it is likely best known for it’s immune activating effects. This medicinal mushroom has shown in numerous studies to activate specific immune cells including: macrophages, T-helper and Natural Killer (NK) cells\(^7\).

Green tea (Camellia sinensis)

Green tea is the second most popular beverage in the world. Not surprisingly several epidemiological studies suggest that the consumption of green tea is associated with the health promoting and chemo preventative effects\(^8\). The health promoting effects of green tea extracts are associated with polyphenols, mainly catechins with the most abundant and active catechin, epigallocatechin-3-gallate (EGCG). The major effects of green tea polyphenols have been associated with their anti-oxidative activities and the induction of detoxification enzymes which promote cellular health by removing harmful reactive oxygen species (ROS) and possible carcinogens. In addition, green tea polyphenols also interferes with several signaling molecules including the enzyme ornithine decarboxylase involved uncontrolled division of damaged cells. In addition, polyphenols from green tea have demonstrated to induce “cell suicide” of damaged cells and encourages the protection of damaged DNA\(^9\). Moreover, a combination of green tea polyphenols with curcumin markedly improves the low bioavailability of curcumin and further suppress’ the growth of unhealthy cells\(^10\).
Grape Seed Extract

Grape seed extract (GSE), prepared from grape (*Vitis vinifera*) seeds, is a complex mixture of polyphenols containing dimers, trimers, and other oligomers of catechins known as the proanthocyanidins\(^\text{11}\). Several studies demonstrated GSE’s broad spectrum of biological benefits including anti-oxidative activity against oxidative stress and degenerative conditions including cardiovascular dysfunctions, acute and chronic stress, gastrointestinal distress, neurological disorders, pancreatitis, and cancer\(^\text{12}\). GSE is known for its potent levels of the antioxidant proanthocyanidins, contains a broad spectrum of biological benefits including anti-oxidative, anti-inflammatory, anti-microbial and cardio-protective\(^\text{13}\). One large human study found a 41%
reduction in excessive cell proliferation of abnormal prostate cells only in men consuming Grape Seed Extract supplement compared to other nutrients.

On the other hand, GSE exhibits selective cytotoxicity against human cancer cells, while not affecting normal cells. As in the case of green tea catechins, in addition to anti-oxidant and anti-inflammatory activities, GSE also suppressed growth of unwanted cells, induced apoptosis and suppressed spreading of aberrant cells.

**Boswellia (Boswellia serrate)**

Extracts isolated from the Indian plant *Boswellia serrata* (BSE) contain different boswellic acids as the major active compounds. Studies on the cellular level reveal that BSE induce immune response, induce programmed death of cancer cells and likely most studied for its ability to inhibit over production of the inflammatory chemical lipooxygenase (LOX). Moreover, human studies suggest BSE for the management of rheumatoid arthritis, osteoarthritis, ulcerative, colitis, Crohn’s disease, bronchial asthma and brain and other cancers.

**Pomegranate (Punica granatum)**

Extracts from the pomegranate fruit contain several polyphenols and anthocynidins. Pomegranate extracts (PME) demonstrated anti-oxidant and anti-inflammatory activities, and suppressed growth and invasive behavior in several experimental studies. In addition to the chemopreventative effects, PME also improved cardiovascular health and demonstrated anti-aging, anti-diabetes and anti-obesity effects. Preclinical in vitro and in vivo studies demonstrated strong activity of PME against fast growing cell lines and in animal cancer models. However, the evidence of clinical effectiveness was reduced because of the poor
quality of published clinical studies. On the other hand, exploratory clinical studies investigating pomegranate found a trend of efficacy in increasing PSADT in patients with prostate cancer\textsuperscript{18}.

Recommended dose: 3 pills in the morning and 3 pill at night, away from food.

References.