Herbs for brain health
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Yuzu citrus Junos Tanaka (Citrus peel)

The general molecular structure is a combination of: limonene, diosmin, hesperidin, methoxyflavones, linalool, b-sitosterol.

Limonene is an adenosine agonist. Adenosine crosses the blood-brain barrier and the beta amyloid deposits in the brains of Alzheimer, Parkinson, and MS patients, so is helpful in restoring circulation into brain tissues starved of nutrient and oxygen due to plaque(s). Adenosine is also the substrate for adenosine triphosphate (ATP), which is the life force inside the mitochondria of the cell, and is needed to restore life in the dying brain cells.
Magnolia Blossom

A nuclear receptor peroxisome proliferator-activated receptor gamma (regulates fatty acid metabolism and glucose uptake).
Peonia Suffruticosa

Over 262 compounds have been obtained so far from the plants of Paeoniaceae. These include monoterpenoid glucosides, flavonoids, tannins, stilbenoids, triterpenoids and steroids, paeonols, and phenols. Biological activities include antioxidant, anti-tumour, antipathogenic, immune-system-modulation activities, cardiovascular-system-protective activities and central-nervous-system activities.
Cistanches Deserticolae

Acteoside, echinacoside, and cistanoside. Antimicrobial (notably against staphlococcus A.), anti-inflammatory, inhibits protein kinase C. Helps thin the blood.

Some effects include: "exhibits hypocholesterolemic activity in diet-induced hypercholesterolemia in mice." Polysaccharides isolated from Cistanche deserticola have in vitro (in glass) immunomodulatory effects in high doses, "promoting the phagocytic and secretory functions of the phagocytic ability of peritoneal macrophage". Enhances antibody production in isolated human lymph node lymphocytes in vitro. High doses of the chemical compound acteoside, isolated from Cistanche affected biomarkers (molecules we can identify that indicate range of activities in the intra or extra cellular metabolism) related to aging in mice. Anti-fatigue properties have been shown in mice. Cistanche deserticola extracts "appeared to enhance the swimming capacity of mice by decreasing muscle damage, delaying the accumulation of lactic acid and by improving the energy storage." A laboratory study in mice found that high doses of Cistanches Herbal extract "significantly enhanced learning and memory, as demonstrated by passive avoidance test and novel object recognition test". These results were determined to be the result of its action in upregulating nerve growth factor.
Mucuna Pruriens (Fava bean)

Pharmacology: In addition to levodopa, Mucuna Pruriens contains minor amounts of serotonin (5-HT), 5-HTP, nicotine, N, N-DMT (DMT), bufotenine, and 5-MeO-DMT. As such, it could potentially have psychedelic effects, and it has purportedly been used in ayahuasca preparations.

The mature seeds of the plant contain about 3.1-6.1% L-DOPA, with trace amounts of 5-hydroxytryptamine (serotonin), nicotine, DMT-n-oxide, bufotenine, 5-MeO-DMT-n-oxide, and beta-carboline. One study using 36 samples of the seeds found no tryptamines present in them.

The leaves contain about 0.5% L-DOPA, 0.006% dimethyltryptamine (DMT), 0.0025% 5-MeO-DMT and 0.003% DMT n-oxide.

The ethanolic extract of leaves of Mucuna Pruriens possesses anti-cataleptic and anti-epileptic effects in albino rats. Dopamine and serotonin may have a role in such activity.
Gastrodia Elata

Medicinally, is used for 'calming the liver' and for treating headaches, dizziness, tetanus, and epilepsy. According to "Nutrition Review," "Gastrodia root has been shown to exert novel pain relief and inflammatory-mediating activities, as well as in vivo and in vitro inhibitory activity on nitric oxide (NO) production."
The use of Polygonatum in the treatment of diabetes was first observed in 1930 by Hedwig Langecker. After experiments, she concluded that it was effective in fighting nutritional hyperglycemia, though not that caused by adrenaline release, probably due to its glucokinin content.
Uncaria Rhynchophylla

A Chinese medicinal herb which has potent antiaggregation effects on Alzheimer's beta-amyloid proteins. Fujiwara H1, Iwasaki K, Furukawa K, Seki T, He M, Maruyama M, Tomita N, Kudo Y, Higuchi M, Saito TC, Maeda S, Takashima A, Hara M, Ohizumi Y, Arai H. Because the deposition of beta-amyloid protein (Abeta) is a consistent pathological hallmark of Alzheimer's disease (AD) brains, inhibition of Abeta generation, prevention of Abeta fibril formation, or destabilization of preformed Abeta fibrils would be attractive therapeutic strategies for the treatment of AD. We examined the effects of several medicinal herbs used in traditional Chinese medical formulae on the formation and destabilization of Abeta fibrils by using the thioflavin T binding assay, atomic force microscopic imaging, and electrophoresis. Our study demonstrates that several of these herbs have potent inhibitory effects on fibril formation of both Abeta(1-40) and Abeta(1-42) in concentration-dependent manners; in particular, Uncaria rhynchophylla inhibited Abeta aggregation most intensively. Significant destabilization of preformed Abeta(1-40) and Abeta(1-42) fibrils was also induced by Uncaria rhynchophylla as well as some other herb extracts. Three-dimensional HPLC analysis indicated that the water extract of this herb contains several different chemical compounds, including oxindole and indol alkaloids, which have been regarded as neuroprotective. Our results suggest that Uncaria rhynchophylla has remarkably inhibitory effects on the regulation of Abeta fibrils, and we conclude that this medicinal herb could have the potency to be a novel therapeutic agent to prevent and/or cure AD.

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Salvia miltiorrhiza (Dan Shen)

An antioxidant called salvianolic acid (or salvianolic acid B) isolated from Danshen is under study for protection against cerebrovascular disorders. Dihydrotanshinone, tanshinone I, and tanshinone IIA are also under study for anti-cancer effects. Tanshinone IIA is one of the most abundant constituents of the root of Salvia miltiorrhiza which exerts antioxidant and anti-inflammatory actions in many experimental disease models, Tanshinone IIA (Tan IIA) has been widely used for various cardiovascular and cerebrovascular disorders in Asian countries. Tanshinone IIA might be a novel promising therapeutic agent for oxidative stress injury in neurodegenerative diseases. Tanshinone IIA may improve renal dysfunction associated with chronic kidney disease. Tan IIA was effective for attenuating the extent of brain edema formation in response to ischemia injury in rats. Salvia miltiorrhiza inhibits α-glucosidase activity. Dan shen may stop the spread of several different cancer cell types by interrupting the cell division process and also by causing cancer cells to undergo cell death (apoptosis). In contrast, the cerebrovascular protective effect of Salvianolic acid has been found to be due to prevention of apoptosis. For HIV, chemicals in Dan shen may block the effectiveness of an enzyme, HIV-1 integrase, that the virus needs to replicate. Salvia may stimulate dopamine release and has protective effects against free radical-induced cell toxicity. S. miltiorrhiza stimulates increased osteogenesis (bone cell growth) in vivo [in the living organism]. Salvianolic acid B could possibly facilitate the repair of tubular epithelial structures and the regression of renal fibrosis in injured kidneys. Dan shen has been shown to potentiate the effects of the common anticoagulation drug warfarin.
Extracts of ginkgo leaves contain flavonoid glycosides (myricetin and quercetin) and terpenoids (ginkgolides, bilobalides) and have been used pharmaceutically. These extracts are shown to exhibit reversible, nonselective monoamine oxidase inhibition, as well as inhibition of reuptake at the serotonin, dopamine, and norepinephrine transporters.
Vinca Rosea (Periwinkle)

Contains terpenoid indole, an alkaloid which is a molecular structure that fits into the opiate receptors in the brain; narcotic drugs are very sedative, deadening the brain to pain and connection with the world. With this structure filling the cellular membrane receptor, the narcotic affect is averted so the brain wakes up. In the general population, excess sugars act like narcotics and put the brain to sleep, and in Alzheimer’s disease, permanently.
Camelia sinensis (Green tea)

The biochemical properties of green tea extracts can be generally divided into four aspects - antioxidant, anti-carcinogen, anti-inflammatory, and anti-radiation. The cardinal antioxidative ingredient in the green tea extract is green tea catechins (GTC), which comprise four major epicatechin derivatives; namely, epicatechin (EC), epigallocatechin (EGC), epicatechin gallate (ECG), and epigallocatechin gallate (EGCG).

Other components include three kinds of flavonoids, known as kaempferol, quercetin, and myricetin.
Curcumin modulates the inflammatory response by down-regulating the activity of cyclooxygenase-2, lipoxygenase, and inducible nitric oxide synthase enzymes; and inhibits several other enzymes involved in inflammation mechanisms. Clinical trials in humans are studying the effect of curcumin on various diseases, including multiple myeloma, pancreatic cancer, myelodysplastic syndromes, colon cancer, psoriasis, arthritis, and Alzheimer's disease. A number of trials studying curcumin efficacy and safety revealed poor absorption and low bioavailability. Methods to possibly increase absorption and systemic bioavailability are under study, including combined administration with piperine and quercetin.

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