Oxidation and Vision Loss

Oxygen and light generate free radicals or precursors, and oxidative damage to lens proteins leads to increasing opacity. Both animal and human studies show that oxidative stress plays a critical role in macular degeneration, glaucoma, retinal degeneration and retinopathies, and cataracts. (243,244,320-327)

UV LIGHT BLUE LIGHT Cornea Light Lens Blocked central retinal vein Retina

UV light induces oxidative stress to the front of the eye and LED "blue" light reaches deeper into the eye where its cumulative oxidative stress damages the retina. (320-322,326)

Oxidative damage is responsible for macular degeneration, glaucoma, retinal degeneration, retinopathies and cataracts. (299,322,324-327)

Oxidative stress is a major cause of cell death and the hallmark of optic neurodegenerative diseases (including retinopathy and glaucoma) is retinal ganglion cell-death. (243,244,320-327)

Studies show Flavay® protects oxidative stress-injured retinal ganglion cells by inhibiting apoptosis (death). (328,329)

Flavay_® Improves Retinal Health

Flavay[®] is shown to improve retinal health and structure, slow progression of degeneration in retinopathies, and stabilize microcapillaries in retinal membranes. (69-72,250.373)

Flavay.com Call: 210-481-0067 or 1-800-200-1203



In various clinical trials, all persons given Flavay® showed significant improvement with various types of retinal degenerations, including macular degeneration, diabetic retinopathy, retinitis pigmentosa, and hemorrhagic and hypertensive retinopathy.



Several clinical studies show taking Flavay® significantly improves (both objectively and subjectively) recovery from glare and sensitivity to light when working at computers and in driving at night. (63,64,65,71,262,263)

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retinas and eye capillaries



Improve Blood Flow, Reduce Inflammation (Pressure), Slow Degeneration and Stabilize Microcapillaries

Licensed in France for use in diabetic retinopathy, many significant studies established the efficacy of Flavay® in protecting retinal cells against oxidative damage, restoring retinal blood flow and in reducing ocular inflammation.

Flavay[®] is proven to reduce pressure in ophthalmic membranes by preventing abnormal leakage of fluids into the orbital cavity and tissues and thereby slow down progression of retinopathies. In various clinical trials, taking Flavay[®] significantly improved various types of retinal degenerations, including macular degeneration, diabetic retinopathy, retinitis pigmentosa, and hemorrhagic and hypertensive retinopathy. ⁽⁶⁹⁻⁷²⁾



Flavay® seals leaky capillaries, strengthens vessels and prevents outflow of blood or liquid. The number of microbleedings in retinal tissue is thereby reduced and visual acuity can improve when taking Flavay®. (249,250)



strengthens collagen & elastin

Reinforces Collagen in the Retina Stronger, Flexible Vessels Slow Progression

of Degeneration and Stabilize Microcapillaries

The health of our eyes depends to a great extent on the integrity of the fine vessels that supply blood to the area. Flavay® helps to both relieve and prevent vascular fragility as it strengthens vessels and helps to prevent the root causes of vessel occlusion—effectively reducing the risk of a rupture or hemorrhage. ^(23,35,36,77-79,87,146,267,268)

Flavay[®] improves strength and tone of vessels by strengthening the essential constituents in vascular walls (collagen and elastin).

Flavay® reinforces collagen structures of the retina (which is 80% collagen). Flavay® is clinically proven to improve strength and tone of veins, arteries, capillaries (the smallest vessels) and lymphoid tissues and thereby improve circulation and microcirculation, and reduce leakage. ^(47,48,82,205)



Diabetic Retinopathy

Diabetic retinopathy is where blood vessels in the retina are fragile and cause reduced retinal blood flow and ultimately inflammation; may include hemorrhages, microaneurysms, and exudates (oozing fluids). Bleeding and leaking from the damaged blood vessels eventually causes vision loss and blindness. Taking Flavay® significantly improved retinopathies and ocular circulation in clinical trials.

reduces inflammation (pressure)

Anti-Inflammatory Mechanisms

(1) Strengthens Antioxidant Defenses

Human studies also show taking Flavay® significantly increases serum total antioxidant activity in both lipid (fat) and aqueous (water) phases of oxidation. Flavay® boosts activity of vitamin A in eyes, increases intracellular antioxidant activities of vitamins C and E, catalase, superoxide dismutase (SOD) and glutathione peroxidase (GPx), improving the body's endogenous antioxidants. ^(33,83,274,369,371)

Patented as a strong antioxidant, Flavay® protects collagen, elastin and hyaluronic acid against over-crosslinking and inhibits destructive pro-inflammatory enzymes. (18,25,61,74,81,391,185,230,387,388)

(2) Reduces Inflammatory Markers

Flavay[®] controls release and synthesis of destructive enzymes that cause inflammation (simultaneously protecting hyaluronic acid, collagen and elastin). Studies show Flavay[®] reduces destructive ratios and concentrations of prostanoids, leukotrienes and thromboxanes

thereby preventing release and synthesis of compounds that promote inflammation, such as histamine, serine proteases and prostaglandins. (18,25,53,61,74,81,185,230,265,274,292,296,302)

Flavay[®] reduces damaging effects of elastase, collagenase and hyaluronidase by altering membrane receptor conformation of vascular walls and preventing destructive enzymes from attaching to and degrading vascular walls. ^(23,67,268)

Flavay® further prevents destruction of vascular walls by preventing the attachment to membranes of histamine, which decreases strength of vessel walls. $^{(35,56,77-79,87,146)}$

Research found Flavay® reduced damage to connective tissue in capillaries by up to 70%. $^{(18,19,23,60,266-268,279)}$

In clinical trials, Flavay® slows progression of retina degeneration and stabilizes microcapillaries in retinal membranes. (69-72,250,373)

Clinical Studies

A review of 26 case studies reveals Flavay® significantly improved vascular lesions, microaneurysms and exudates associated with diabetic retinopathy. $^{(71)}$



147 out of 147 improvement in retinopathies

all cases of exudations linked to ischemia (inadequate blood supply) improved with Flavay®

The effects of Flavay[®] (100 mg per day) were measured on 147 persons with retinopathy. Flavay[®] improved all cases of exudations linked to ischemia (inadequate blood supply) linked to a diabetic, ateriosclerotic, inflammatory, degenerative and myopic nature. ⁽⁶⁹⁾

81%

21 out of 26 overall improvement

in subjects with retinopathy, capillary fragility microaneurysms exudates and hemorrhages

ocular fundus improved in 15 subjects

capillary fragility improved in 11 subjects

A study measured effects of Flavay® on 26 persons with retinopathy and capillary fragility, microaneurysms, exudates and hemorrhages. Capillary fragility (measured with Parrot's angiosterrometer) improved in 11 persons, condition of the ocular fundus improved in 15 persons, and overall improvement in 21 persons.⁽²⁵⁰⁾

The effects of Flavay[®] measured on retinopathy subjects with microaneurysms, hemorrhages, exudations (oozing fluids) and neovascularization after capillary hypoxia. Retinal infectional lesions were stabilized in 80% of persons taking Flavay[®]. ⁽⁷²⁾

An *in vivo* study demonstrated Flavay[®] protects the retina against hyperglycemic damage. Notably, the structure of the retina improved in the Flavay[®] diabetic group, as compared with non-treated diabetic group. ⁽³⁷³⁾