

# Eye Health

Globally, it is estimated that approximately 1.3 billion people live with some form of vision impairment. However, 80% of all vision impairment is considered preventable.<sup>1</sup>

Resveratrol has been shown in studies to have beneficial effects in supporting eye health.

# Eye health, a vision for change

Poor eye health may in-part be caused by impaired blood-flow, inflammation, cell degradation, oxidative stress. <sup>1-4</sup> Resveratrol can be a key ingredient to supporting healthy vision and eye function by improving blood flow and counteracting the deleterious effects of oxidative stress. <sup>5</sup>



# Resveratrol may improve blood flow and support eye health

Impaired blood flow and subsequent ischemic changes can lead to blurred or no vision in the center of the visual field. Resveratrol supplementation has been suggested to lead to anatomical restoration of retinal structure, improvement of blood flow and the suppression of pathological changes induced by low oxygen levels.<sup>6</sup> A clinical study<sup>7</sup> showed the benefits of resveratrol supplementation for eye health when compared to a placebo after only 1 hour of administration by:

• Increasing the choroidal thickness and thereby improving blood flow in the eye

34 healthy individuals (23-29 yrs), supplement with 100 mg resveratrol, single dose, choroidal thickness measured using optical coherence tomography (OTC) imaging

## Resveratrol may protect retinal cells and reduce retinal degeneration

Resveratrol has been shown to lessen the gradual retinal cell degeneration caused by unbalanced blood sugar levels and associated inflammation.<sup>8</sup> Resveratrol has also been reported to affect mitochondrial biogenesis and protect retinal cells against oxidative stress, light damage,<sup>9,10</sup> and pathological changes such as increased vessel leakage.<sup>11</sup> A three year clinical trial with resveratrol<sup>12</sup> confirmed:

• Broad bilateral recovery in the ocular structure and function by improving contrast sensitivity and glare recovery

3 elderly individuals, supplement with 100 mg resveratrol daily, 2 - 3 years, clinical measurement of ocular structure, visual function

### Resveratrol can reduce oxidative stress for improved eye health

Oxidative stress is thought to be a leading cause in poor eye health. Resveratrol has been shown to increase the levels of glutathione, which serves to protect against oxidative damage and also to play a role in preventing trabecular meshwork tissue abnormalities. <sup>13</sup> An additional cell-culture study documented <sup>14</sup> resveratrol:

- Prevents increased production of intracellular reactive oxygen species and affected inflammatory markers (IL1, IL6, IL8, and ELAM-1), all biomarkers of oxidative stress
- Reduces cell death and supports normal cell proliferation

Cell-culture preclinical study, trabecular meshwork cells, 15 days, 25 µM (5.7 mg/L) resveratrol, markers for inflammation, oxidative damage, and cellular aging (e.g. carbonylated proteins)



#### References

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### Resveratrol re-imagined

Veri-te<sup>™</sup> Resveratrol is sustainably produced using an innovative yeast fermentation process.

This means our Resveratrol is:

PURE: >98% pure trans-Resveratrol.

SAFE: free of contaminants (e.g. pesticides, emodin & PAHs).

RELIABLE: consistent batch to batch.

VERSATILE: off-white, odorless and neutral taste. SCALABLE: large cGMP production capacity.

### Our Products:

#### Veri-te<sup>™</sup> 98%

- Perfect for dietary supplements, food & beverages and cosmetics.
- Allows the highest loading of resveratrol for your products.

#### Veri-Sperse™ CWD

- Water dispersible Veri-te<sup>™</sup> Resveratrol, made with LipiSperse<sup>®</sup> technology from Pharmako Biotechnologies.
- Appropriate for instant powder beverages, liquid shots, oral dispersible, and effervescent tablets.
- With a neutral taste, the system is easy to flavor in a variety of formulations.

#### Veri-te™ API

- API grade Resveratrol manufactured under Pharma GMP. DMF available, compliant with regulatory requirements for pharmaceutical products.
- Appropriate for Ophtalmology applications.

#### Veri-te™ Aqua

- Completely water and fat soluble, made with NovaSOL® technology from Aquanova.
- Suitable for crystal clear liquid applications such as soft-gel capsules, liquid shots or functional beverages, liquid cosmetics and gel sachets.

### Regulatory & Quality Status:

- EU Novel Foods approved, US self-affirmed GRAS, and other country approvals.\*
- Made under cGMP and HACCP based food safety conditions.
- Halal and Kosher certified resveratrol available.
- \*Contact Evolva for a full list of countries where approved by regulation.

#### About us

Evolva is a Swiss biotech company focused on the research, development and commercialization of products based on nature. We have leading businesses in Flavours and Fragrances, Health Ingredients and Health Protection. Evolva's employees, half of which are women, are dedicated to make the best products that can contribute to health, wellbeing and sensory enjoyment. Find out more at www.evolva.com.

#### For more information:

We have sales offices in the US and Europe, with distribution and regulatory approvals worldwide.\* Our technical team can advise on formulations and ideal combinations. Additionally, our marketing team can help you plan your marketing strategy for Veri-te™ Resveratrol. Contact us to order free samples for evaluation.

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