



# Blueberry VISION SUPPORT

High Potency Bilberry & Lutein For Healthier Eye Sight

## 護視明眼膠囊 Vision Support Capsules

The eye is composed of various structures to support vision. The tear film is structured in three layers that optimally retains moisture on the ocular surface and maintains its integrity and health.<sup>[1]</sup> The retina is composed of millions of photoreceptor cells and is one of the highest oxygen-consuming tissues in the human body.<sup>[2]</sup> Tissues in the eye are constantly under oxidative stress and are at high risk of infections due to direct exposure to the external environment. As we age, antioxidant capacity decreases and the efficiency of reparative systems may decline gradually.<sup>[3]</sup> Blueberry Vision Support for ocular protection would be important to maintain the health of eyes.

Blueberry Vision Support is a combination of the best quality bilberry plants from northern Europe together with Lutein, Canthaxanthin and Zeaxanthin. Ocular fatigue is a common health problem as modern lifestyle prompted people to focus on computer monitors or smartphones for a long period of time. Studies suggest that anthocyanins contained in bilberry may relieve symptoms of a variety of visual disorder and promote other health benefits.<sup>[4]</sup>

**The following ingredients may help to relieve symptoms of eye discomfort:**

### Bilberry Extract

Bilberry extract contains anthocyanins (a flavonoid) and ascorbic acid (one form of vitamin C).<sup>[5]</sup> Flavonoids possess neuroprotective and anti-oxidizing properties.<sup>[6-7]</sup> It is believed that anthocyanins could therefore help to protect the retina, the nerve layer that lines the back of our eyes sending nerve impulses to the visual area of our brain. Bilberry extract also promotes blood glucose level reduction in diabetic rodent model.<sup>[8]</sup> Anthocyanins could boost the production of rhodopsin,<sup>[7]</sup> the photosensitive pigment responsible for night vision and helps our eyes adapt to light change. Both anthocyanins and ascorbic acid are strong antioxidants. Thus, the constituents could provide protection to the eyes against oxidative stress<sup>[9]</sup> and maintain healthy nerves for light sensation.

### Lutein & Zeaxanthin

Lutein and zeaxanthin are natural carotenoids which can be found in the macula and the rest of the retina.<sup>[10]</sup> Lutein and zeaxanthin could not be synthesized in mammals, and must be obtained from the diet.<sup>[10-11]</sup> These two compounds are yellowish pigments which could filter blue light at the high energy end of the visible spectrum, thus reducing UV radiation toxicity to the retina and the skin.<sup>[10-11]</sup>

### Canthaxanthin

Canthaxanthin is a red-orange carotenoid extracted from edible mushroom. Carotenoids are known as antioxidants, radical scavengers and quenchers of singlet oxygen.<sup>[12]</sup> Therefore, canthaxanthin may help maintain integrity of ocular tissues through protection against UV and free radical damage.

**The common reasons for eye discomforts:**

- Ageing<sup>[1,14-15]</sup>
- Frequent sun and light exposure<sup>[14-15]</sup>
- Tobacco smoke or pollutant exposure<sup>[14-15]</sup>
- Long hours of computer monitor exposure<sup>[10, 15-16]</sup>
- Smartphones and tablets addicted<sup>[10, 15-16]</sup>
- Frequent eye dehydration due to sleeplessness and wearing contact lenses<sup>[15]</sup>

**Functions of Blueberry Vision Support may include:**

- Provide constituents essential for retinal pigment production<sup>[7,10-11]</sup>
- Improve night vision<sup>[4,10]</sup>
- Neutralize free radicals and help to decelerate aging of vision<sup>[6-7,12]</sup>
- Improve blood circulation and nutrient supply to the eye<sup>[4]</sup> and relieve eye fatigue
- Help our eyes adapt to light change<sup>[7]</sup>
- Nourish dry eyes<sup>[4]</sup>

**Recommended daily dose:**

For Adult: Take 1-2 capsules daily (after meal) or as directed by physicians.

#### Reference:

1. Ding J, Sullivan DA. Aging and dry eye disease. *Exp Gerontol.* 2012 Apr 28; doi: 10.1016/j.exger.2012.03.020.
2. Yu DY, Cringle SJ. Retinal degeneration and local oxygen metabolism. *Exp Eye Res.* 2005;80(6):745-51.
3. Jarrett SG, Boulton ME. Consequences of oxidative stress in age-related macular degeneration. *Mol Aspects Med.* 2012 Apr 9; doi: 10.1016/j.mam.2012.03.009.
4. Zafra-Stone S, Yasmin T, Bagchi M, Chatterjee A, Vinson JA, Bagchi D. Berry anthocyanins as novel antioxidants in human health and disease prevention. *Mol Nutr Food Res.* 2007;51(6):675-83.
5. Cocetta G, Karppinen K, Suokas M, Hohtola A, Häggman H et al. Ascorbic acid metabolism during bilberry (*Vaccinium myrtillus* L.) fruit development. *J Plant Physiol.* 2012 May 17; doi: 10.1016/j.jdiacomp.2011.11.004.
6. Dajas F, Rivera F, Blasina F, Arredondo F, Echeverry C et al. Cell culture protection and in vivo neuroprotective capacity of flavonoids. *Neurotox Res.* 2003;5(6):425-32.
7. Kalt W, Hanneken A, Milbury P, Tremblay F. Recent research on polyphenolics in vision and eye health. *J Agric Food Chem.* 2010;58(7):4001-7.
8. Takikawa M, Inoue S, Horio F, Tsuda T. Dietary anthocyanin-rich bilberry extract ameliorates hyperglycemia and insulin sensitivity via activation of AMP-activated protein kinase in diabetic mice. *J Nutr.* 2010;140(3):527-33.
9. Ola MS, Nawaz MI, Siddiquei MM, Al-Amro S, Abu El-Asrar AM. Recent advances in understanding the biochemical and molecular mechanism of diabetic retinopathy. *J Diabetes Complications.* 2012;26(1):56-64.
10. Kijlstra A, Tian Y, Kelly ER, Berendschot TT. Lutein: More than just a filter for blue light. *Prog Retin Eye Res.* 2012 Mar 21; doi: 10.1016/j.preteyeres.2012.03.002.
11. Ozawa Y, Sasaki M, Takahashi N, Kamoshita M, Miyake S, Tsubota K. Neuroprotective effects of lutein in the retina. *Curr Pharm Des.* 2012;18(1):51-6.
12. Carpenter KL, van der Veen C, Hird R, Dennis IF, Ding T, Mitchinson MJ. The carotenoids beta-carotene, canthaxanthin and zeaxanthin inhibit macrophage-mediated LDL oxidation. *FEBS Lett.* 1997;401(2-3):262-6.
13. Drouault-Holowacz S, Bieuvelet S, Burckel A, Rigal D, Dubray C, et al. Antioxidants intake and dry eye syndrome: a crossover, placebo-controlled, randomized trial. *Eur J Ophthalmol.* 2009;19(3):337-42.
14. Pinazo-Durán MD, Gallego-Pinazo R, García-Medina JJ, Zanón-Moreno V et al. Oxidative stress and its downstream signalling in aging eyes. *Clin Interv Aging.* 2014 Apr 11;9:637-52. doi: 10.2147/CIA.S52662.
15. Dry eye syndrome – Causes. NHS Choices. Available online at <http://www.nhs.uk/Conditions/Dry-eye-syndrome>
16. Brigid Sweeney. NBC News: Got blur? Could be computer vision syndrome. Available online at [http://www.nbcnews.com/id/42116442/ns/health-womens\\_health/#.U-nLlvmSyCk](http://www.nbcnews.com/id/42116442/ns/health-womens_health/#.U-nLlvmSyCk)

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