

## BACKGROUND INFORMATION

An official product demo for Eye Formula was released in October 2018. The following Q&As may be used to address any questions stemming from this demo.

### Q&A FOR CONSUMER INQUIRIES

#### **What is blue light, and why does it matter?**

Blue light is the highest energy light on the visible light spectrum. Because blue light is high energy, it has the potential to cause damage to eyes when they are exposed to too much of it – and many people are constantly exposed to blue light. In addition to naturally occurring blue light from sunlight, it is also emitted from LED lights and television, computer, tablet, and cell phone screens. This constant exposure (and its potential impact on eye health) is a growing concern.

#### **Is blue light the same as UV light?**

No, blue light is part of the visible light spectrum. UV light is just outside of the visible light spectrum.

#### **What ingredients in Eye Formula help protect the eyes from blue light?**

Eye Formula contains clinically effective levels of two carotenoids important for eye health: lutein and zeaxanthin. While these are the two key ingredients that offer blue light protection specifically, Eye Formula also contains vitamin C, vitamin E, selenium, zinc, and copper for additional eye health benefits.

#### **How do lutein and zeaxanthin help protect the eye from blue light?**

Lutein and zeaxanthin are found in various structures in the eye, but they are most highly concentrated in the retina of the eye (where our photoreceptors that help us see are located). Higher intakes of lutein and zeaxanthin, whether through foods or supplements, increase the concentration of lutein and zeaxanthin in the retina and are correlated to better eye health<sup>1</sup>.

Blue light poses a danger to the retina because it is high energy. This means it can easily damage the delicate cells of the retina and cause reactive oxygen species. Lutein and zeaxanthin have a unique chemical structure that allows them to protect against blue light damage via two major mechanisms: first, they can quench reactive oxygen species, and second, they are able to absorb high-energy blue light<sup>1</sup>.

#### **What are some food sources of lutein and zeaxanthin?**

Lutein and zeaxanthin are naturally occurring in vegetables, especially leafy greens like kale, spinach, and swiss chard as well as egg yolks. Unfortunately, the average consumption of lutein is estimated to be about 1-2 mg per day<sup>2</sup>, meaning a large gap exists between what we generally consume and what we need for blue light protection.

#### **What evidence is there that Eye Formula provides an effective dose of lutein and zeaxanthin?**

A daily dose of Eye Formula provides 10 mg lutein and 2 mg zeaxanthin. Third-party clinical studies on lutein and zeaxanthin show that these levels offer blue light protection by increasing Macular Pigment Optical Density (MPOD), a measure of lutein and zeaxanthin levels in the retina<sup>3-5</sup>.

#### **Does Eye Formula block all blue light in the retina?**

No. Even higher doses of lutein and zeaxanthin do not block all blue light. In fact, some blue light is beneficial, since it plays an important role in circadian rhythm and mood. However, too much blue light along with lack of protection of carotenoids in the retina can cause damage to the light-sensitive cells in the retina.

### **How does the Eye Formula demo illustrate what is happening in the eye?**

The Eye Formula demo shows the capacity of lutein and zeaxanthin to block blue light. Whether mixed with water (as in the demo), or concentrated in the retina of the eye, these two carotenoids can absorb high-energy blue light. Thus, the demo serves to demonstrate the mechanism of how these carotenoids interact with blue light.

### **Was Eye Formula reformulated for the demo?**

No, Eye Formula was not reformulated for the product demo. The demo was developed for the existing formula, which has a new scientifically substantiated claim that it helps protect eyes from blue light in addition to its other claims that it may help reduce glare sensitivity, supports eye health, and protects cells from oxidative damage.

### **What materials are needed for the demo?**

All the materials necessary to conduct the blue light demo are listed on the Eye Formula Demonstration Instructions.

## **REFERENCES**

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