



Fact Sheet

ZEISS BioChrom

What is ZEISS BioChrom?	ZEISS BioChrom is a tinted lens portfolio. The eyeglass lenses are available in four specially defined tints that have been shown to impact a person's body and mind.
What was the inspiration for ZEISS BioChrom?	<p>Market research from ZEISS Sunlens showed that consumers purchase sunglasses for different reasons. There's one group interested primarily in function (better vision, fewer reflections, UV protection, etc.). Another group has a strong emotional attachment to sunglasses. They wear them because they want to hide behind the lenses, give off a certain <i>je ne sais quoi</i>, boost their well-being or awaken certain emotions in themselves.</p> <p>The ZEISS Vision Science Lab (ZVSL) in Tübingen was contacted with the results of this research and asked to identify potential product development options. Based on this scientific foundation, the researchers on Prof. Siegfried Wahl's team at the ZVSL developed the four colors for ZEISS BioChrom together with the Project Management area at ZEISS Sunlens. Once the lenses were developed, ZEISS tested them together with the Behavior and BrainLab of IULM University in Milan.</p>
Where is ZEISS BioChrom available?	ZEISS BioChrom was developed for the sunglass lens market by ZEISS Sunlens in Italy. Therefore, it's currently only available to (sun and sports lens) manufactures and not to consumers at their eye care professional's (ECP) office. Currently, ZEISS BioChrom can only be used for non-prescription lenses.
Why is ZEISS BioChrom not currently available for prescription lenses?	Right now, the tint manufacturing techniques are only in use in the Sunglass Lens area at ZEISS. ZEISS BioChrom is available in polyamide/non-prescription lens material.



<p>Who was ZEISS BioChrom developed for? Who is it particularly well-suited for?</p>	<p>ZEISS BioChrom was developed for health-conscious people who want to trigger/elicit certain physiological and psychological effects, strengthen their sense of well-being and boost their performance by wearing tinted lenses. Based on broad market research, ZEISS has determined that there is significant demand for this.</p> <p>The use of ZEISS BioChrom is not limited to a certain group of people. ZEISS BioChrom is suitable for anyone (excluding children younger than twelve years of age).</p>
<p>Which colors are available?</p>	<p>Four colors are available, each with three tint intensity levels: red, yellow, blue and green.</p>
<p>Why were these particular four colors selected?</p>	<p>These four colors were selected for two reasons in particular. First, three of them are primary colors (with corresponding receptors in the retina: red, yellow and blue – all the other colors are secondary colors, which are mixed cognitively). And second, a large number of scientific studies with strong research results are available for all four colors so that they could be used for a product that offers the consumer true added value. ZEISS only conducted its own, reliable studies for the four tints on offer.</p>
<p>Is there a scientific basis for the tints' particular hue? Or can I use any tinted lens?</p>	<p>The hues for the four tints have been precisely defined. Each tint has been designed for a special wavelength range. Different hues of a single color can produce similar general effects. However, the effects documented are based on the scientific studies conducted by ZEISS with the defined ZEISS BioChrom tints only.</p>
<p>When should ZEISS BioChrom lenses be worn?</p>	<p>This is up to the individual wearer. ZEISS recommends wearing those lenses with a higher tint intensity for a shorter period of time. Depending on how the person intends to use them, they should wear the lenses before, during or after the specific activity. For example: Blue – After a long flight to feel refreshed when exiting the plane. Red – Prior to playing sports so that wearers can pump themselves up. Green – During periods when the person wants to let go and get creative. Yellow – For focusing while working.</p>
<p>Were these lenses developed for use indoors or outdoors?</p>	<p>The ZEISS BioChrom lenses have been developed for use both indoors and outdoors. All lenses offer complete UV protection. Please note, however, that only the lowest intensity level is suitable for driving.</p>
<p>What effect does each color stand for?</p>	<p>Red stands for "Boost" – For heightened emotional excitement.</p> <p>Blue stands for "Refresh" – For an activating, refreshing effect.</p> <p>Green stands for "Relax" – For calming effects and to promote creativity.</p>



	<p>Yellow stands for "Focus" – For higher attention and the ability to concentrate.</p>
<p>Has it really been proven that the particular color has the specified impact on every person?</p>	<p>The colors' effects were demonstrated in scientific studies under study conditions. The group of test subjects encompassed a larger age range (22 to 50) with participants of both genders. The effects still proved statistically significant in spite of the limited size of the group, which also indicates the strength of these effects.</p> <p>However, the impact of particular tints can vary from person to person, meaning that no general statements about the efficacy in any given situation can be made.</p>
<p>How much of an effect do the lenses have?</p>	<p>On an individual level, no general answer to this question can be provided. The strength of the effect depends on a person's particular disposition and situational factors. It's clear that the tints were shown to have a significant impact in the ZEISS studies. Consumers are encouraged to test what effects the lenses have on them.</p>
<p>Do I have to be careful when wearing the lenses?</p>	<p>Whoever wears ZEISS BioChrom lenses also perceives their environment differently. This is especially pertinent when driving, since the lenses with the strongest and mid-level tint intensity are not suitable for behind the wheel.</p> <p>Every consumer should be familiar with the tint's effects and decide which color they will use for a particular purpose. The tints should only be used as intended. ZEISS BioChrom Blue, for example, should not be worn before going to bed because these lenses have been shown to have activating effects.</p>

BioChrom is a registered trademark of Carl Zeiss Vision GmbH.

Last updated: August 2019