2025/03/30 11:18 1/2 Color Vision Deficiency

Color Vision Deficiency

Classification

Red-Green Color deficiency

- Deutan
 - 6% of males
 - Defect in M-opsins for medium wavelength sensitive cones
 - Deuteranomaly
 - most common
 - a type of anomalous trichomacy
 - abnormal function of green cones
 - Deuteranopia
 - A type of dichromacy
 - non-functioning green cones
- Protan
 - 2% of males
 - Defect in L-opsins for long wavelength sensitive cones
 - Reduces the sensitivity of red light
 - Protanomaly
 - a type of anomalous trichomacy
 - abnormal functioning red cones
 - Protanopia
 - A type of dichromacy
 - non-functioning red cones

Blue-Yellow Color deficiency (Tritan)

- defect in S-opsins for short wavelength sensitive cones
- Tritanomaly
 - a type of anomalous trichomacy
 - abnormal function of blue cones
 - difficulty discerning between blue and green and between yellow and red
- Tritanopia
 - A type of dichromacy
 - non-functioning blue cones
 - o unable to discern between blue and green, purple and red, yellow and pink

Blue Cone Monochromacy

non-functioning red and green cones

- only blue cones function
- central vision is significantly affected

Complete Color Deficiency

- Achromatopsia (monochromacy)
 - no functioning cones
 - Central vision usually affected
 - accompanied by nystagmus in congenital disease

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