Method of assessing risk of individuals for developing age-related macular degeneration

Technology #1928

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Method of assessing the risk of an individual for developing age-related macular degeneration (AMD) by identifying specific protective or risk polymorphisms or genotypes from genetic materials

Age-related macular degeneration (AMD) is the most common form of irreversible blindness in developed countries. It is a degenerative eye disease that affects the macula, which is a photoreceptor-rich area of the central retina that provides detailed vision. AMD results in a sudden worsening of central vision. This technology represents a way of assessing the risk of development of age-related macular degeneration. By analyzing the variants of factor B (BF), complement component 2 (C2), and/or complement factor H (CFH) gene and determine the relevant genotypes, this technology provides method and kit for identifying whether an individual is at risk of AMD.

AMD affects more than 1.75 million individuals in the United States. There is no cure for AMD. Early detection of age-related macular degeneration is very important because there are treatments that can delay the progression or reduce the severity of the disease. Thus identifying people at risk for AMD early and accurately would be beneficial for lowering the risk of developing AMD.

Analyzing genetic variants enables early detection of risk for AMD

This method analyzed variants of BF, C2 and/or CFH genes that encode regulatory proteins in the complement pathway from human biological sample. By determining whether the individual has at least one protective variant of these genes that are involved in inflammation, the risk of developing AMD is predicted. Unlike commonly available detection method that involves eye exam, this method utilized genetic markers to assess the risk of developing AMD, which enables early detection and intervention.

Applications:
– Genes can be used as genetic markers for identifying people who are at risk of developing AMD. In addition, for people identified with increased risk of AMD, preventive therapy can be utilized.
– This technology provides potential treatment target for AMD.

Advantages:
– It can be done in a high throughput manner that saves time and improves efficiency.
– This technology provides method for early detection of risk of AMD, which could lower disease progression and reduce the incidence of AMD.
– Genetic diagnostic method is accurate and mature technology with relatively few errors.
Patent information: US 20120071356 ~ see link below.

Licensing Status: Available for licensing and sponsored research support

Related Publications:
- Gold B. Allikmets R et al. Variation in factor B (BF) and complement component 2 (C2) genes is associated with age-related macular degeneration. 2006 Apr; 38(4):458-62.

Inventors

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