Allelic heterogeneity

Allelic heterogeneity involves different allelic forms at one gene locus, so only one gene is involved. A single nucleotide polymorphism (a single alteration of a nucleotide, either A, T, C or G) may not cause a disease, but can help determine the likihood that someone will develop a particular illness. Most SNPs involve the replacement of cytosine with thymine. One of the genes associated with Alzheimer's disease, apoliprotein E or ApoE, shows how SNPs affect disease development. ApoE contains two SNPs that result in three possible alleles for this gene: E2, E3 and E4. Each allele differs by one DNA base and the protein product of each gene differs by one amino acid. Inheriting the E2 allele indicates a person is less likely to develop Alzheimer's, but inheriting the E4 allele increases the risk of Alzheimer's.

Links

- Alzheimer's disease