Transgenic mice expressing mutant pig rhodopsin

Duke LICENSING & VENTURES

Value Proposition

ADRP (Autosomal Dominant Retinitis Pigmentosa) is a type of retinal degeneration that affects 1 in 3500 people worldwide and is caused by mutations in the rhodopsin gene 30% of the time. Suitable animal models that simulate this human disease are needed for discovery and development of therapeutic interventions

Technology

This invention is a transgenic mouse model that simulates human ADRP (Autosomal Dominant Retinitis Pigmentosa) due to three point mutations introduced into in the pig rhodopsin gene and injection of the mutant DNA into mouse embryos, allowing for appropriate selection of transgenic strains. This model allows for pre-clinical drug screening as well as investigation into the mechanisms of pathogenesis.

Advantages

- These transgenic mice are a reproducible and stable phenotype
- Prior to this technology, no model existed for phenotypes dependent on mutations in rhodopsin
- This is the only model available that simulates the human Retinitis Pigmentosa phenotype that is due to mutations in the rhodopsin gene
- This technology allows for the investigation of therapeutic interventions relevant to this specific class of retinal degeneration

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