Development of novel anti-miRNA nucleotide (SHJ002) to treat myopia.

Subsector: Anti-sense nucleotide

Indication: high myopia, targeting school children

Phase of Development: Preclinical (14 months before IND filing)

Invention Description:
The myopia prevalence is approximately 85% in Asian areas including Taiwan, Hong Kong, Japan, Korea, and urban China, and 20% of population in these areas are high myopia (worse than - 6 diopter). SHJ002 is the first-in-class of anti-microRNA 328 for myopia treatment, and designed to prevent high myopia complications with no pupil dilatation adverse effect which is often seen in patients receiving atropine. Research proof of concept is shown that SHJ002 treatment significantly improved the eye ball elongation, compared to atropine treatment, in a form deprivation myopia diseased animal model. MicroRNA-328 may influence myopia development by mediating several myopia-related genes including the PAX6 gene.

Competitive Advantage:
Current methods used for refraction correction have no effect on preventing pathological eye ball elongation and myopia-associated complication. An off-label use of Atropine is the only one effective drug for myopia treatment, but cause pupil dilatation and may lead to photo-damage to retina. SHJ002 is the first anti-sense nucleotide that targets miRNA328-mediating myopia development, and without significant adverse effect.

IP Status:
- Composition and Use: US provisional filed in 2015.
- Freedom to operate analyzed in 2015.


Business opportunity: Risky sharing (alliance & collaboration) ; Out-licensing ; Open innovation

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