

Targeting non-coding RNAs for the treatment of retinal diseases.

Song J(1), Kim YK(2).

Author information: (1)Department of Anatomy, Chonnam National University Medical School, Hwasun 58128, Jeollanam-do, Republic of Korea. (2)Department of Biochemistry, Chonnam National University Medical School, Hwasun 58128, Jeollanam-do, Republic of Korea.

Maintaining visual function is key to establishing improved longevity. However, the numbers of patients with diseases of the retina, the most important tissue for vision and the key to age-related blindness, are not declining due to the increase in the number of aging subjects worldwide and the technological advances in the delivery of premature infants. The primary treatment option for retinal diseases is still surgical intervention and includes laser or photocoagulation, which are associated with various complications and side effects. Many aspects of the pathogenesis of these retinal diseases are still unknown, thereby impeding drug discovery. This has led to an increase in the number of studies focused on the underlying pathogenic mechanisms of retinal diseases. Growing evidence suggests that non-coding RNAs play critical roles in the pathogenesis of retinal diseases. Herein, we have summarized the known functional roles of non-coding RNAs, emphasizing their contribution to the underlying pathogenesis of retinal diseases. In addition, we discuss the modulation of non-coding RNAs as potential therapeutics and the methods to control the non-coding RNAs for the treatment. We expect that targeting non-coding RNAs could be crucial for developing novel therapeutics for progressive diseases including diseases of the retina.

© 2021 The Author(s).

DOI: 10.1016/j.omtn.2021.02.031 PMID: PMC7985465 PMID: 33815941

Conflict of interest statement: The authors declare no competing interests.