



RNA Therapeutics

Problem

Inflammatory diseases affect millions of patients worldwide and are often driven by overexpression of key inflammatory proteins such as NLRP3. Current antisense oligonucleotide (ASO) therapies primarily work by degrading mRNA or altering RNA splicing, limiting the range of mechanisms available for therapeutic intervention.

There remains a significant need for innovative RNA-based approaches that can selectively regulate protein expression through alternative biological pathways while maintaining the precision associated with nucleic acid therapeutics. This need is evident in fatty liver diseases such as MAFLD and MASH, where rising prevalence and few treatments underpin a global market of over US\$20 billion.

Solution

The technology employs antisense oligonucleotides to reduce translation of target proteins involved in inflammatory signalling by way of a previously unexploited mechanism. Initial proof-of-concept has been demonstrated using NLRP3, a key driver of inflammation.

Intellectual Property Status

This technology is the subject of an Australian provisional patent application.

Potential Commercial Applications

- Inflammatory and Autoimmune Diseases.
- Fatty Liver Diseases
- Oncology
- RNA Therapeutics Platform Development

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