Catalytic MicroRNA Antagonists

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SUMMARY

UCLA researchers in the Department of Biological Chemistry have developed a novel approach for miRNA inhibition.

BACKGROUND

Micro RNA (miRNA) are short, 22 nucleotide RNA sequences. They play a critical role in post-transcription gene regulation and their mis-regulation is associated with different diseases such as cancer, autoimmunity, and metabolic diseases. Therapeutic strategies that require elimination of the miRNA use complementary RNA sequences that bind the target miRNA and inhibit its normal function. However, this approach is highly inefficient, as it needs stoichiometric amounts of the antagonist.

INNOVATION

UCLA researchers have designed novel miRNA antagonists. Their approach uses modified antagonists with increased activity and results in clearance of the target miRNA. These antagonists are powerful tools for therapeutic purposes and as research tools to characterize miRNAs with unknown functions.

APPLICATIONS

- Inhibition of target miRNA for therapeutic purposes in cancer, autoimmune and other diseases
- Research tool for knockout studies

ADVANTAGES

- Higher efficiency than current antagonists
- Simple and easy to use

STATE OF DEVELOPMENT

Currently being tested.

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OTHER INFORMATION

KEYWORDS

microRNA, antagonist, cancer, miRNA knock down, miRNA inhibition

CATEGORIZED AS

- **Medical**
  - Therapeutics
- **Research Tools**
  - Nucleic Acids/DNA/RNA

RELATED CASES

2016-592-0

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