TECHNOLOGY AVAILABLE FOR LICENSE

UMKC
Office of Technology Transfer

PNA as a Complimentary Linker for the Delivery and Imaging of siRNA and Oligonucleotides

UMKC inventors have developed proprietary peptide nucleic acid (PNA) sequences capable of forming stable oligonucleotides or small interfering ribonucleic acids (siRNA) that are applicable across a wide range therapeutic and research uses.

Need:

Oligonucleotides have been of great interest to research and pharmaceutical industries for their ability to modulate various gene targets by inhibiting/modifying protein translation. The major downfall of current oligonucleotides is that they are chemically unstable and degrade quickly when administered as a drug or exposed to high temperatures.

Invention Details:

This invention describes new oligonucleotide analogs called PNAs, which are resistant to degradation and can be directly conjugated to gene targets, siRNAs and other oligonucleotides for therapeutic and imaging purposes. These novel PNAs have the potential to alleviate many of the current disadvantages of RNA based therapies used in the clinic today.

Advantages:

This new class of PNAs have potent RNA silencing capabilities that are potentially more resistant to temperature and enzymatic degradation in the body than current technology.

Suggested Uses:

The treatment of various diseases including but not limited to cancer, hepatitis, cardiovascular disease, hypertriglyceridemia and muscular dystrophy. In addition, the technology can be used in various molecular imaging techniques such as FISH, ULYSIS and microarrays for research and diagnostic purposes.

Patent Number(s): Application Number: 62481399 04-APR-2017

Investigators: Kun Cheng; Wei Jin

UMKC OFFICE OF TECHNOLOGY COMMERCIALIZATION

4747 TROOST RM. 120
KANSAS CITY, MO 64110
PHONE: 816-235-5091
FAX: 816-235-5092
E-MAIL: ERICWA@UMKC.EDU