

Ribozyme Therapy Against HIV Infection



DESCRIPTION

A ribozyme is an RNA molecule with a well defined tertiary structure that enables it to catalyze a chemical reaction. Ribozyme means ribonucleic acid enzyme. It may also be called an RNA enzyme or catalytic RNA. It contains an active site that consists entirely of RNA. Many natural ribozymes catalyze either the cleavage of one of their own phosphodiester bonds (self-cleaving ribozymes), or the cleavage of bonds in other RNAs. Catalytic RNA sequences of Ribozyme can be effectively utilized

against viral diseases. Without hampering the cleavage efficacy, their association with specific ligands facilitates in cell entry process, increases stability and capture and detection of in-vitro assays.

The technology describes the composition of chimeric Ribozyme RNA sequences, which are flanked with DNA sequences, thus allowing base pairing with HIV- RNA at positions adjacent to cleavage site. Alternatively, these DNA sequences can also be substituted at the 3' and 5' ends with Ligand molecules and administered through known delivery agents. The encapsulation of these Ribozymes within Liposome, facilitate in their administration through intravenous or intramuscular injections. Different viral or endogenous RNA mediated disease can be targeted with the help of these chimeric Ribozymes molecules.

KEY ASPECTS

- Encapsulation within liposome, which helps in administration by intravenous or intramuscular injections
- Easy administration through known delivery agents
- Modification process does not hamper cleavage activity
- Utilized effectively against different viral infections, also inhibit stent induced restenosis.
- These chimeric ribozymes can be synthesized on any DNA/RNA synthesizer using standard phosphoramidite chemistry.
- 6 different ribozyme sequences are disclosed

INTELLECTUAL PROPERTY

Title	US Patent Number	Issued
Chimeric DNA/RNA Ribozymes Containing Propanediol	6,379,931	4/30/2002

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