Morpholino against MRJ splicing as drugs for virus infection treatment

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Experience:

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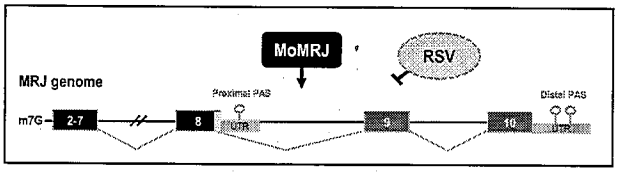

Market Needs:

Respiratory syncytial virus (RSV) is caused by acute lower respiratory infections in infants, the elderly and immuno-compromised individuals. According to the report from the World Health Organization, RSV infection causes about 199,000 deaths around the world. However, it is still no therapeutic agents against RSV infection for clinical use.

Our Technology:

In order to develop antiviral drugs, we found the MRJ (mammalian relative of DNAJ member B6; DNAJB6) gene containing two isomers, MRJ-L and MRJ-S. We showed that RSV was reduced in knockdown of MRJ-L expression in human epidermal cells (Hep2 cells). On the other hand, we used MoMRJ, morpholino conjugating antisense sequences, to manipulate isoform switch of MRJ gene and affect RSV replication. The results suggested that MoMRJ inhibited RSV replication via reducing the MRJ-L expression.

Strength:

At present most anti-RSV drugs were targeting the viral protein directly and interfering with viral replication. We are using MoMRJ, antisense oligonucleotides affecting cellular gene splicing, to reduce the ability of RSV replication. Further, it has a potential for broad-spectrum antiviral Intervention.

Competing Products:

In clinical trials apart of anti-RSV drugs affected virus directly; the other part is anti-inflammatory drugs. There are no MRJ related drug development.

Intellectual Properties:

The technology is not yet submitted for any patent application.

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