

Gene Targeting for the treatment of HBV and HDV

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THE UNIVERSITY OF
SYDNEY

Pharmaceuticals



> Pre-Clinical

Problem

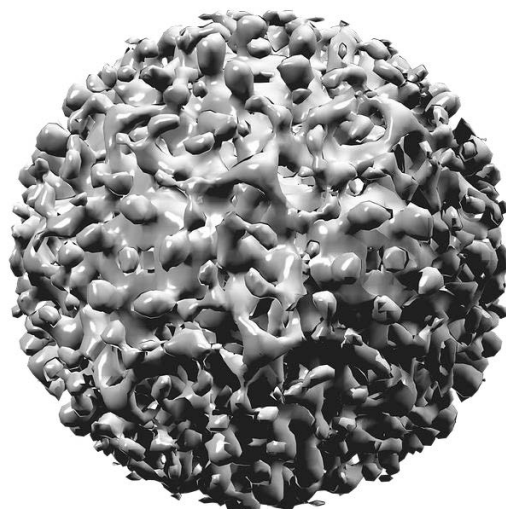
Hepatitis B is a viral infection, which when left untreated causes significant liver damage and liver cancer. Current treatments for hepatitis B are not curative, they function by managing the infection and preventing virus replication in an attempt to prevent further liver damage, as such, most patients require life-long treatment. By curing the infection itself the damage to the liver can be decreased and the risks of future liver diseases such as cancer are lessened significantly. This would also allow patients to stop other treatments, preventing long-term **side effects**.

Solution

This technology is a combination treatment of currently used therapies and new targeting of hepatitis B surface antigen. This solution targets and suppresses a key host gene that is responsible for secretion of hepatitis B surface antigen, essential for virus infectivity. The result is that the surface antigens are not expressed in hepatitis B sufferers. Inhibition of hepatitis B surface antigen when combined with the current treatments for hepatitis B achieves a functional cure. Early trials of injected nucleic acid polymers, nonspecific antiviral agents that act through unknown mechanisms, have demonstrated high rates of surface antigen loss and functional cure. As hepatitis D cannot survive without hepatitis B, a cure for hepatitis B also functions as a cure of hepatitis D.

Commercial Opportunity

This is an opportunity to acquire an entirely new class of antiviral treatment for sufferers of HBV and HDV, that would cure them of their infection. The University is seeking an industry partner for the licensing and co-development of the technology.



Intellectual Property Status

PCT patent application: WO2020087107

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