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EFFECT OF THE ADAR1 SIGNALLING PATHWAY ON HCV REPLICATION

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The hepatitis C virus (HCV) is a member of the Flaviviridae family, the genome of which consists of a +RNA molecule. It causes hepatitis C, which infects tens of millions of people worldwide. Although new direct-acting antivirals (DAAs) are highly effective in treating hepatitis C, a preventive vaccine against HCV has not yet been developed. This report examines the relationship between hepatitis C virus (HCV) and the double-stranded RNA editing enzyme adenosine deaminase 1 (ADAR1). As part of the innate immune response, ADAR1 catalyses the conversion of adenosine to inosine, which affects both the stability of the edited double-stranded RNA helix and the information encoded in the primary sequence of nucleotides.

In order to evaluate the impact of ADAR1 on HCV replication, an ADAR1 knockout cell line was generated from Huh7.5 hepatocellular carcinoma cells. The findings of preliminary experiments examining HCV replication in the Huh7.5 ADAR1 KO cell line will be presented.

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