Two cDNA Clones of Hepatitis E Virus (HEV) that are Infectious for Primates and Encode a Virulent and an Attenuated Virus Respectively

Published date: Feb. 1, 2012

Technology description

Summary

Hepatitis E virus (HEV) is a human pathogen that is the most important cause of acute hepatitis in areas where the virus in endemic (Southeast and Central Asia, and parts of Africa). This invention relates to transcripts from the two cDNA clones that produced virus following intrahepatic transfection of chimpanzees. The virus encoded by cDNA with the consensus sequence of the wild-type Sar 55 Pakistani strain of HEV caused liver enzyme elevations (i.e. acute hepatitis) in the chimpanzee and resulted in seroconversion to anti-HEV at five weeks following inoculation. The second cDNA differed from the first by a two nucleotides, one of which was located in the coding region. The nucleotide at this position and the 18-20 nucleotides surrounding it are highly conserved in all strains sequenced thus far. Two chimpanzees inoculated with transcripts from this clone seroconverted to anti-HEV but seroconversion was delayed until week 14 and liver enzyme levels did not rise, indicating the virus was attenuated. Viral sequences could be recovered from the serum of only one chimp and at only one time point by reverse-transcription polymerase chain reaction, indicating viral replication was inefficient. An attenuated vaccine would be more cost effective than a recombinant protein vaccine.

Institution

NIH - National Institutes of Health

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com