

# Successful passive and active immunization of cynomolgus monkeys against hepatitis E

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## Successful passive and active immunization of cynomolgus monkeys against hepatitis E

Esergei A. Tsarev\*<sup>T</sup>, Tatiana S. Tsareva\*, Suzanne U. Emerson\*, Sugantha Govindarajant, Max Shapiro§, John L. Gerini<sup>1</sup>, And Robert H. Purcell\*

\*Hepatitis Viruses Section, Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD 20892; <sup>t</sup>Rancho Los Amigos Hospital, Pathology and Clinical Laboratories, Downey, CA 90242; §Bioqual, Inc., Rockville, MD 20850; and <sup>1</sup>IDivision of Molecular Virology and Immunology, Georgetown University Medical School, Rockville, MD 20852

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## Abstract

Virtually full protection against hepatitis E and partial or complete protection against infection with hepatitis E virus (HEV) were achieved in passively or actively immunized cynomolgus monkeys. Hepatitis, viremia, and shedding of the virus in feces were detected in all non-immunized animals that were challenged with HEV. HEV titers detected by reverse transcriptase PCR were higher in feces than in serum of non-immunized animals. Anti-HEV antibody titers at the time of challenge ranged between 1:40 and 1:200 in animals passively immunized with convalescent plasma from a cynomolgus monkey previously infected with BEV and between 1:100 and 1:10,000 in animals actively immunized with a recombinant 55-kDa open reading frame 2 protein. The estimated 50% protective titer of passively acquired anti-HEV antibodies was 1:40. Although only one of four passively immunized animals showed histopathologic evidence of hepatitis, all four were infected after challenge; however, the titers of BEV in serum and feces were lower in the passively immunized animals than in the non-immunized group. The actively immunized animals developed neither hepatitis nor viremia when challenged with HEV and virus was either not detected or was present in low titer in feces. The protective response was a function of the ELISA anti-HEV antibody titer at the time of challenge and the immunization schedule.

## References

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