Hepatitis A Virus Receptor And Methods Of Use

Published date: Feb. 1, 2012

Technology description

This invention describes the discovery and isolation of HAVcr-1, a simian cellular receptor for the hepatitis A virus (HAV). Cells nonpermissive to HAV infection transfected with HAVcr-1 cDNA, a novel cell surface mucin-like glycoprotein, gain susceptibility to HAV infection. The invention claims nucleic acids encoding cellular receptors to HAV that hybridize with HAVcr-1 probes, including the human homologs of HAVcr-1 (hHAVcr-1). The invention also claims peptides encoded by the above-mentioned HAV receptor nucleic acid, antibodies against HAVcr-1 receptors, and ligands to HAVcr-1 receptors. The human homolog of HAVcr-1 (hHAVcr-1) has been shown to be a marker of renal injury (given the alias of kidney injury molecule 1 or KIM-1) and kidney cancer as well as a putative asthma determinant gene and modulator of T cell helper responses (given the alias of T-cell immunoglobulin mucin 1 or TIM-1). Use of HAVcr-1 nucleic acids and derived peptides, antibodies, ligands, etc. for diagnosis and therapy are also covered in this patent.

Application area

Potential areas of application include use of HAVcr-1 receptors and homologs for diagnostics; use of HAVcr-1 receptors for treatment of patients; development of therapeutic compounds capable of interacting with HAVcr-1receptors that could block or activate these receptors, development of transgenic animals carrying HAVcr-1 receptors or portions of the receptors that could be used for vaccine production and testing and other applications.

Institution

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