Non-Confidential Description - PSU No. 2309
“An Assay for Detecting Variant Hepatitis B Viruses”

Keywords:
Hepatitis, assay, virus identification, therapy, detection

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Background
Hepatitis B virus (HBV) can cause debilitating disease conditions ranging from subclinical infection to chronic active hepatitis and can lead to acute liver failure or fulminant hepatitis. It is important to be able to detect variant HBVs so that appropriate steps can be taken to modify a therapeutic protocol. This is also particularly important in the development of new therapeutic agents to be effective against known resistant variants of HBV and also when cross resistance develops within a family of chemically related anti-viral agents.

Invention Description
The present invention relates generally to an assay for detecting variant Hepatitis B viruses (HBVs) which exhibit altered sensitivity to agents. The variant HBVs are delivered to cells using a baculovirus vector. The altered sensitivity to an agent is in relation to the effects of the agent on one or more stages of infection, replication, assembly or release of virus or virus-like particles. The identification of variant HBVs with altered sensitivities to anti-HBV agents provides a means of monitoring cross resistance, or the development of new therapeutics effective against variant HBVs with altered sensitivities to other anti-HBV agents, as well as monitoring therapeutic protocols. The present invention further provides variant HBVs detected by the assay of the present invention and to components thereof as well as recombinant, chemical analogue, homologue and derivative forms of such components.

Advantages/Applications
- Transient system which does not require integration of the HBV viral genome
- HBV expression can be enhanced or prolonged in a population of HBV baculovirus infected cells simply by superinfection of the cultures
- Contains no HBV genomes, thus giving researchers greater control; no need to transfect the cell line or select a new cell line
- Ability to synchronously initiate the replication process