# TECHNOLOGY OFFER

technology transfer heidelberg

# 008: Hepatitis B virus peptides as vehicles for specific delivery of compounds to the liver

## Key Facts

- ✓ preS-derived peptides of hepatitis B virus (HBV) are versatile vehicles for specific delivery of compounds to the liver
- ✓ Potential applications: Targeted diagnosis, prevention and/or treatment of liver and liver-related diseases or disorders

## The Technology

The present invention relates to hydrophobic modified preS-derived peptides of hepatitis B virus (HBV) which can be versatile vehicles for the specific delivery of compounds to the liver, preferably to hepatocytes, in vitro as well as in vivo. Any kind of compound, but in particular drugs, such as interferons, viral reverse transcriptase inhibitors or core assembly inhibitors, and/or labels could possibly be specifically targeted and enriched in the liver using these peptides. Possible applications include: targeted diagnosis, prevention and/or treatment of liver diseases or disorders.

## Background

The liver is an important organ in the human body, it plays a major role in the metabolism and has a number of functions, including glycogen storage, decomposition of red blood cells, synthesis of plasma proteins and detoxification. There is a wide number of known liver diseases, such as: Hepatitis, Cirrhosis, Haemochromatosis, liver cancer and i.e. Wilson's disease among other hereditary liver diseases. Furthermore, several pathogens and parasites, especially of tropical diseases, have a liver stage during their life cycle.

## Advantages

- ✓ Small peptides
- ✓ Strong liver tropism
- ✓ New and effective drug delivery to the liver

## Commercial Opportunity

Development of diagnostics and drugs directly delivered to the liver.

## Development Stage

Preclinical development.

## Inventors

Prof. Dr. Stephan Urban, PD. Dr. Walter Mier and Prof. Dr. Uwe Haberkorn (University Clinic Heidelberg, Germany)

## Intellectual Property

PCT/EP2009/000477
CN 200980112506.9
EP 09 704 030.7
JP 2010-543441
US 12/864,197

## Reference:

Petersen J, Dandri M, Mier W, Lütgehetmann M, Volz T, von Weizsäcker F, Haberkorn U, Fischer L, Pollok JM, Erbes B, Seitz S, Urban S. Prevention of hepatitis B virus infection in vivo by entry inhibitors derived from the large envelope protein. Nat Biotechnol. 2008 Mar;26(3):335-41. Epub 2008 Feb 24. PubMed PMID: 18297057.

## Contact:

technology transfer heidelberg GmbH
Im Neuenheimer Feld 672
D-69120 Heidelberg
Germany
Email: tt-team@med.uni-heidelberg.de

UniversitätsKlinikum Heidelberg