

## CLAIMS

What is claimed is:

- 5 1. A combination of isolated or recombinant antibodies or antigen binding fragments thereof,
- the combination comprising H019 and H017,
- wherein H019 comprises a heavy chain variable region that is IGHV4-30-4\*01; a heavy chain diverse region that is IGHD2-2\*03; a heavy chain joining region that is IGHJ3\*02, a
- 10 heavy chain CDR1 that is GGSITTGDYY (SEQ ID NO: 18), a heavy chain CDR2 that is IYYSGST (SEQ ID NO: 19), and a heavy chain CDR3 that is AIYMDEAWAFEI (SEQ ID NO: 1012); and a kappa light chain variable region that is IGKV1-39\*01, a kappa light chain joining region that is IGKJ2\*01, a light chain CDR1 that is QSVGNY (SEQ ID NO: 21), a light chain CDR2 that is AVS, and a light chain CDR3 that is QQSYTISLFT (SEQ ID NO:
- 15 22),
- and wherein H017 comprises a heavy chain variable region that is IGHV3-74\*01, a heavy chain diverse region that is IGHD3-10\*01, a heavy chain joining region that is IGHJ4\*02, a heavy chain CDR1 that is GFTFSNYW (SEQ ID NO: 13), a heavy chain CDR2 that is ISTDGSST (SEQ ID NO: 14), and a heavy chain CDR3 that is ARGSTYYFGSGSVDY
- 20 (SEQ ID NO: 15); and a lambda light chain variable region that is IGLV2-14\*01, a lambda light chain joining region that is IGLJ1\*01, a light chain CDR1 that is SSDIGVYNY (SEQ ID NO: 16), a light chain CDR2 that is DVT, and a light chain CDR3 that is SSYRGSSTPYV (SEQ ID NO: 17).
2. The combination of claim 1, comprising at least one modification of its constant region,
- 25 wherein the modification increases in vivo half-life of the antibody, or alters the ability of the antibody to bind to Fc receptors, or inhibits aggregation of the antibodies, or a combination of said modifications, or wherein the antibody is attached to a detectable label or a substrate;
- optionally comprising the modification that increases in vivo half-life of the antibody; or
- optionally comprising the modification that alters the ability of the antibody to bind to Fc
- 30 receptors.

3. The combination of claim 1 that further comprises the H016 antibody,
- wherein H016 comprises a heavy chain variable region that is IGHV3-48\*02; a heavy chain diverse region that is IGHD3/OR15-3a\*01; a heavy chain joining region that is IGHJ2\*01, a heavy chain CDR1 that is GFTFPSHT (SEQ ID NO: 8), a heavy chain CDR2 that is ISTTSEAI (SEQ ID NO: 9), and a heavy chain CDR3 that is ASVGLDSKISGYWYFDL (SEQ ID NO: 10); and a kappa light chain variable region that is IGKV3-15\*01, a kappa light chain joining region that is IGKJ4\*01, a light chain CDR1 that is QSISSN (SEQ ID NO: 11), a light chain CDR2 that is RAS, and a light chain CDR3 that is QQYDHWPLT (SEQ ID NO: 12).
4. A pharmaceutical composition comprising the combination of any one of claims 1-3.
5. The pharmaceutical composition of claim 4, wherein the composition further comprises the H016 antibody,
- wherein H016 comprises a heavy chain variable region that is IGHV3-48\*02; a heavy chain diverse region that is IGHD3/OR15-3a\*01; a heavy chain joining region that is IGHJ2\*01, a heavy chain CDR1 that is GFTFPSHT (SEQ ID NO: 8), a heavy chain CDR2 that is ISTTSEAI (SEQ ID NO: 9), and a heavy chain CDR3 that is ASVGLDSKISGYWYFDL (SEQ ID NO: 10); and a kappa light chain variable region that is IGKV3-15\*01, a kappa light chain joining region that is IGKJ4\*01, a light chain CDR1 that is QSISSN (SEQ ID NO: 11), a light chain CDR2 that is RAS, and a light chain CDR3 that is QQYDHWPLT (SEQ ID NO: 12).
6. The combination of any of claims 1-3 for use in a method for prophylaxis or therapy of a Hepatitis B virus infection, wherein an effective amount of the combination of any one of claims 1-3 is to be administered to an individual in need thereof, and wherein optionally the at least one antibody comprises at least one modification of the constant region.
7. The combination for use of claim 6, wherein the H016 antibody is to be further administered.
8. The combination for use of claim 6, wherein a combination of at least two of the antibodies comprising the H017 and H019 antibodies is to be administered to provide a therapeutic and/or prophylactic effect against infection by a hepatitis B virus that comprises

one or more escape mutations in at least one of the HBsAg or the S-protein of the hepatitis B virus;

wherein, optionally, the combination of at least two of the antibodies further comprises the H016 antibody.

- 5     9.     One or more recombinant expression vectors encoding the heavy chain and the light chain of any one of the antibodies or antigen binding fragments thereof of any one of claims 1–3.
10.    Cells comprising one or more recombinant expression vectors of claim 9.
11.    A method comprising culturing cells of claim 10 and separating antibodies from the  
10    cells.
12.    A kit comprising one or more expression vectors encoding according to claim 9.
13.    A method for detecting Hepatitis B virus comprising:  
         contacting a biological sample from an individual with an antibody of any one of  
         claims 1–3, and detecting the presence of a complex comprising the antibody and a Hepatitis  
15    B virus protein.
14.    A method comprising testing one or more candidate drug agents for the capability to target an antigenic loop region of the hepatitis B virus S-protein by interfering with a complex formed by the peptide and an antibody of any one of claims 1–3.