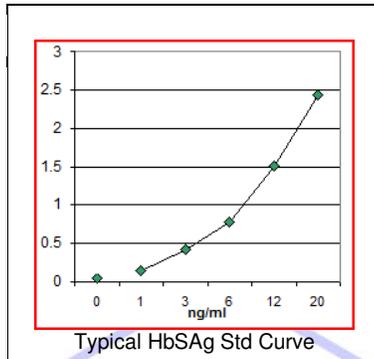


Hepatitis B Surface Antigen (HBsAg, native or recombinant) ELISA Kit, Cat# 4110

HbSAg ELISA kit is a sandwich ELISA is a rapid and sensitive assay for the measurement of native or recombinant HbSAg. This kit will be useful for routine manufacturing or R&D of the HbSAg vaccines. The assay can be used to detect the presence of HbSAg in serum or plasma or other fluids.



HbSAg (Native/recombinant) ELISA Kit Features

- Highly specific anti-HBSAg IgG pre-coated, stabilized, ready-to-use 96-well strip plate, suitable for multiple runs over 6-12 months.
 - Recombinant purified HbSAg standards (0, 1, 3, 6, 12, and 20 ng/ml).
 - 100 ul samples, **Sensitivity** ~1 ng/ml.
 - 105 min room temp (25-28oC) , 3 incubation steps,;
 - **Storage (2-4oC) & Stability** ~6-12 months
- Contains all necessary reagents. For in vitro research use only.

Assay Procedure: Allow all reagents to reach room temperature. Arrange and label required number of strips.

- Step 1.** Pipet **100 ul each** of pre-diluted stds, samples containing native or recombinant protein. Mix gently and incubate at room temp for **60 min**.
- Step 2.** **Aspirate and wash 3X.** Add **100 ul of antibody-HRP Conjugate** to all wells, mix gently and incubate at room temp for **30 min**.
- Step 3.** **Aspirate and wash 4X.** Add **100 ul of TMB Substrate** solution to all wells, mix gently, and incubate at RT for **15 min**.
- Step 4.** Pipet **100 ul of stop solution** into each well and mix gently (blue color turns yellow). **Measure absorbance at 450 nm.** Determine antibody concn in each sample using the standards (results are expressed in units/ml).

General Information

Hepatitis B is caused by hepatitis B virus (HBV) which infects the liver of hominoidea, including humans, and causes an inflammation called hepatitis. It has caused epidemics in parts of Asia and Africa, and it is endemic in China. About a quarter of the world's population, more than 2 billion people, have been infected with the hepatitis B virus. This includes 350 million chronic carriers of the virus.[4] Transmission of hepatitis B virus results from exposure to infectious blood or body fluids such as semen and vaginal fluids, while viral DNA has been detected in the saliva, tears, and urine of chronic carriers with high titer DNA in serum. Risk factors for developing HBV infection include working in a health care setting, transfusions, and dialysis, acupuncture, tattooing, extended overseas travel and residence in an institution. The infection is preventable by vaccination. Hepatitis B virus is a hepadnavirus—hepa from hepatotropic and dna because it is a DNA virus. The viruses replicate through an RNA intermediate form by reverse transcription, and in this respect they are similar to retroviruses. Although replication takes place in the liver, the virus spreads to the blood where virus-specific proteins and their corresponding antibodies are found in infected people. Blood tests for these proteins and antibodies are used to diagnose the infection.

There are four known genes encoded by the genome, called C, X, P, and S. The core protein is coded for by gene C (HBcAg). HBeAg is produced by proteolytic processing of the pre-core protein. The DNA polymerase is encoded by gene P. Gene S is the gene that codes for the surface antigen (HBsAg). The HBsAg gene is one long open reading frame but contains three in frame "start" (ATG) codons that divide the gene into three sections, pre-S1, pre-S2, and S. Because of the multiple start codons, polypeptides of three different sizes called large, middle, and small (pre-S1 + pre-S2 + S, pre-S2 + S, or S) are produced. The virus is divided into four major serotypes (adr, adw, ayr, ayw) based on antigenic epitopes presented on its envelope proteins, and into eight genotypes (A-H) according to overall nucleotide sequence variation of the genome. The genotypes have a distinct geographical distribution and are used in tracing the evolution and transmission of the virus.

The hepatitis B surface antigen (HBsAg) is most frequently used to screen for the presence of this infection. It is the first detectable viral antigen to appear during infection. If the host is able to clear the infection, eventually the HBsAg will become undetectable and will be followed by antibodies to the HbSAg and core antigen, (anti-HBs and anti HBc IgG). A person negative for HBsAg but positive for anti-HBs has either cleared an infection or has been vaccinated previously. Hepatitis B vaccine is one of the most commonly used vaccines. Most vaccines use HbSAg produced expressed and purified from bacteria or yeast. Recombinant HbSAg vaccines is formulated in Alum gels and it is either given individually or in combination with other vaccines. **Merck** vaccines: Comvax (HepB/Hib), Recombivax HB (Hep B), PedvaxHib (Hib-PRP-OMP); **GlaxoSmithKline** vaccines- Enderix-BPEd/Adol (HepB Ped/Adol), Enderix-B for adults (HepB), Pediarix (DTAP/HepB/IPV; **WyethLederle** vaccines-; Trihibit (DTAP/Hib), ActHib (Hib-PRP-T) - Sanofi Pasteur; HibTiter (Hib-Hboc).

Related ELISA kits

4210	Mouse Anti-HBsAg IgG ELISA kit	4215	Mouse Anti- HBsAg IgM ELISA kit
4220-AHB	Human Anti-HBsAg ELISA kit	4240	Rabbit Anti-HBsAg ELISA kit
4300-AHG	Human Anti-Hepatitis A Virus IgG (HAV-IgG) ELISA kit		
##VAC-HBS-100	VacciGel™ Direct ELISA for the detection and measurement of Hepatitis B vaccine (HBSAg) adsorbed onto the Alhydrogel		

Recombinant and native HbSAg and antibodies are also available.

4110/110928A