

# HBV surface antigen Pre-S1 region quantitative ELISA kit

## HBs Pre-S1 Antigen Quantitative ELISA Kit, Rapid

The world only one kit to determine HBV Pre-S1 antigen

HBsAg is composed of Pre-S1, pre-S2 and S regions. For long time, only S antigen activity is measured for diagnosis purpose. The pre-S1 region is known to play an important role in the recognition of human hepatocyte and resulting infection. In recent years, increase of escape mutants of HBV which is not detected by S antigen detection kits are big concern in HBV research. Beacle Inc. has a few year ago first commercialized a pre-S1 detection kit in order to accelerate researches in escape mutant and HBV infection mechanism. Now we have developed new type of pre-S1 detection kit. This kit is designed for quantitative determination of pre-S1 antigen with quick manner.

### Features

1. Quantitative determination of Pre-S1
2. High sensitivity (as low as 0.1nUnit/mL\*)
3. Safe and reproducible (recombinant standard)
4. Quick determination (minimum 90 min\*\*)
5. Human serum sample can be used

\*: one nunit is defined as the activity of 1ng of the standard antigen.

\*\* : does not include sample preparation, washing and abs measurement.



【Kit composition】 Almost all reagents are equipped for determination (see other side for detail)

### 【Price】

Product code	Product name
BCL-S1HP-01	HBs Pre-S1 Antigen Quantitative ELISA Kit, Rapid
BCL-S1D-01	HB Pre-S1 Antigen Quantitative ELISA Kit (Genotype D)

For GtD, use BCL-S1D-01.

### 【Related products】

Product code	Product name	content
BCL-SHP-21	HB S Antigen Quantitative ELISA Kit, Rapid-II	1 kit
BCL-S2HP-01	HB Pre-S2 Antigen Quantitative ELISA kit, Rapid	1 kit
BCL-AGC-01	Hepatitis B Virus Surface Antigen (HBsAg), L-protein Genotype C (Recombinant)	100 µg
BCL-AGD-01	Hepatitis B Virus Surface Antigen (HBsAg), L-protein Genotype D (Recombinant)	100 µg
BCL-AGS-02	Hepatitis B Virus Surface Antigen (HBsAg), L-protein ST type (Recombinant)	100 µg
BCL-AGX-02	Recombinant HBsAg with high antigenic activity(HBsAg-XT)	100 µg
BCL-ABM-01	Anti Pre-S1 antibody, mouse-mono-1	100 µg
BCL-ABM-02	Anti Pre-S1 antibody, mouse-mono-2	100 µg

### 【Produced by】

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### 【Distributor】

## 【Principle and the time required for determination】

The main components of this kit are pre-coated plate, HRP-labeled detection IgG and standard antigen. The standard antigen and samples are applied onto pre-coated microplate with capture IgG. Antigens captured by plate was detected by the detection IgG-HRP. The HRP was then determined by chromogenic agent. Thus, this kit uses standard sandwich technique.

The kit can be used in two ways as shown below. There is essentially no difference in sensitivity or signal strength between the two method except for the times required for assay.

**One step method** (employed when one can dilute sample more than 10 times) :

①reactions of antigen with capture and detection IgGs: 60 min→②chromogenic reaction:30 min  
(Total 90 min)

**Two step method** (employed when one wish no or minimum sample dilution) :

①reaction of antigen with capture IgG: 60 min→②reaction of antigen with detection IgG: 60 min  
→ ③chromogenic reaction:30 min (Total 150 min)

\*:The total time does not include times required for sample preparation, washing, and absorbance measurement.

## 【Kit Components】

Detection IgG-HRP solution	1 tube
Standard recombinant antigen lyophilized	1 tube
Detection IgG dilution buffer	1 bottle
Reaction buffer (3×concentrated)	1 bottle
Buffer A (20× concentrated)	1 bottle
Chromogenic Reagent A	1 tube
Chromogenic Reagent B	1 bottle
Stop Solution	1 bottle
Pre-Coated 96 wel microplate	1 plate
Instruction manual	1 booklet

### \*About pre-S1 antigen activity

There is no established definition to express pre-S1 antigen activity. In this kit, one nUnit of activity is defined as that of 1ng of the standard antigen which is a component of the kit.

## 【Equipments and Materials】

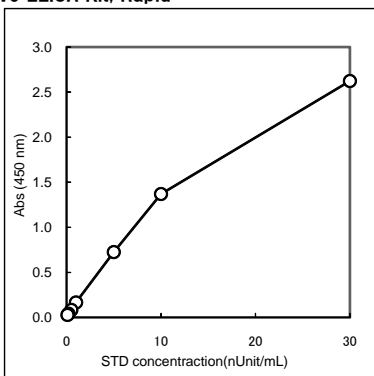
Following equipments and materials should be prepared by yourself for using the kit:

- Microplate leader (absorbance wave length =450 nm)
- Micropipettes
- Microtubes
- Plate sealer
- 8-channel multi pipette with reservoirs
- Distilled water

## 【Example of standard curve】

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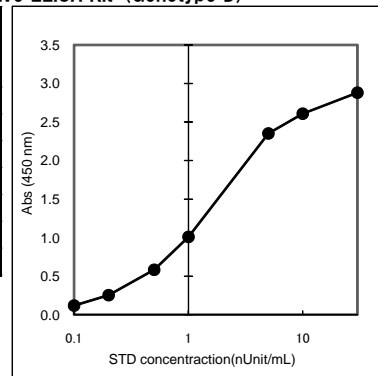
STD		Abs 450 nm (-Blank)
ID	Conc. (nUnit/mL)	
STD①	30	2.625
STD②	10	1.369
STD③	5	0.725
STD④	1	0.166
STD⑤	0.5	0.082
STD⑥	0.2	0.040
STD⑦	0.1	0.028



It has good reactivity in the range of 0.1 to 30 (nUnit /mL).

HBs Pre-S1 Antigen Quantitative ELISA Kit (Genotype D)

STD		Abs 450 nm (-Blank)
ID	Conc. (nUnit/mL)	
STD①	30	2.882
STD②	10	2.608
STD③	5	2.352
STD④	1	1.011
STD⑤	0.5	0.584
STD⑥	0.2	0.256
STD⑦	0.1	0.120



It has good reactivity in the range of 0.1 to 30 (nUnit