

Quantitative, For Hepatitis B Virus Specific T Cells Detection Kit

Quantitative Detection Kit, For Hepatitis B Virus Specific T Cells

CATALOG #
AAA27976

PRODUCT SYNONYMS

Quantitative; For Hepatitis B Virus Specific T Cells; Quantitative Detection Kit; For Hepatitis B Virus Specific T Cells detection kit

PRODUCT SPECIFICATIONS

Immunogen	ic peptide pool 7260ul Positive Control
Preparation and Storage	The antigenic peptide pools in this kit must be stored at -80 degree C. It is strongly recommended to divide the antigenic peptide pool into small aliquots for single use. These aliquots should be stored at -80 degree C; Fetal bovine serum, PHA working solution, and negative well auxiliary buffer should be stored at -20 degree C. All other reagents and materials should be stored at 4 OC and kept sterile. Under these conditions the reagents and materials in this kit are stable for minimal 5 months.

IMAGES

Asia														
	Japan			South Korea			Thailand			India				
	1	2	3	1	2	3	1	2	3	1	2	3	1	2
A *02:01	0.171	0.115	0.116	0.275	0.155	0.185	0.018	0.255	0.262	0.032	0.04	0.073		
A *11:01	0.127	0.082	0.095	0.124	0.103	0.108	0.299	0.235	0.277	0.159	0.1	0.187		
A *14:02	0.323	0.179	0.165	0.208	0.221	0.217	0.039	0.188	0.175	0.137	0.155	0.154		
A *15:01	0.076	0.071	0.084	0.053	0.056	0.054	0.028	0.013	0.013	0.035	0.04	0.058		
A *16:01	0.077	0.095			0.087	0.071	0.025			0.013		0.008		
A *02:07	0.022	0.035		0.054	0.03	0.109								
A *13:03	0.097	0.097	0.075	0.185	0.161	0.163	0.127	0.115	0.138	0.078	0.152	0.117		
A *14:05	0.001	0.002	0.015	0.022	0.015	0.011	0.011	0.011	0.011	0.003	0.011			
A *02:08		0.001		0.006	0.005	0.077			0.024	0.014	0.014	0.008		
A *11:02		0.001	0.002		0.002		0.015							
A *01:01		0.004	0.004	0.02	0.018	0.018	0.007	0.004	0.009	0.054	0.063	0.069		
A *01:01	0.022	0.009	0.004	0.011	0.02		0.028	0.018	0.022	0.148	0.158	0.088		
A *16:01	0.087	0.081	0.074	0.066	0.058	0.06	0.014	0.006	0.019	0.048	0.026	0.048		
Total	0.903	0.939	0.944	0.995	0.953	0.938	0.817	0.843	0.965	0.739	0.751	0.795		
Area	Aichi	Japan	Japan	South Korea	South Korea	South Korea	Thailand	Northeast Thailand	Thailand	Andhra Pradesh	Karnataka	Kerala		
Race														

Application Data

	Southeast Asia					
	Indonesia		Philippines		Vietnam	
	1	2	1	2	1	2
A *02:01	0.042	0.075	0.3	0.069	0.25	0.021
A *11:01	0.139	0.164	0.07	0.333	0.33	0.229
A *14:02	0.139	0.144	0.32	0.314	0.13	0.138
A *15:01					0.02	0.021
A *02:06		0.035	0.04			0.047
A *02:07					0.085	0.099
A *33:03	0.083	0.169		0.049	0.1	0.115
A *01:01		0.012				0.003
A *02:01	0.069	0.037				0.079
A *11:02			0.05			0.035
A *03:01	0.014	0.025		0.02	0.01	0.005
A *01:01	0.028	0.025			0.03	0.038
A *26:01	0.042	0.008		0.039	0.03	0.021
Total	0.556	0.894	0.78	0.824	0.9	0.832
Area	Java Island	Indonesia	Philippines	Philippine capital area	Hanoi	Hanoi
Race		Bata Sunda and Japanese languages	Indonesian languages		Jing Vietnam	Jing Vietnam

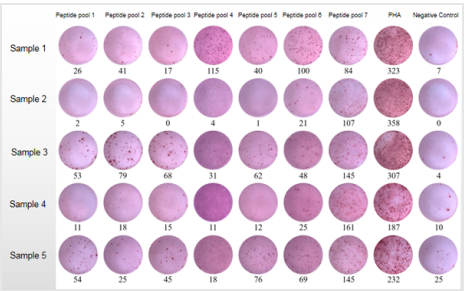
Application Data

	Europe					
	Russia		Germany		France	
	1	2	1	2	1	2
A *02:01	0.238	0.294	0.248	0.188	0.301	0.29
A *11:01	0.043	0.083	0.043	0.058	0.011	0.01
A *14:02	0.218	0.119	0.091	0.081	0.084	0.098
A *15:01	0.01	0.021	0.02	0.029	0.002	0.007
A *02:06	0.014	0.001	0.002		0.002	
A *02:07		0.001				
A *13:03	0.009	0.004	0.004	0.004	0.006	0.003
A *01:01	0.001	0.003	0.004	0.001	0.002	0.001
A *02:08						
A *11:02	0.13	0.164	0.126	0.118	0.12	0.127
A *01:01	0.096	0.105	0.118	0.118	0.121	0.113
A *14:02	0.027	0.048	0.031	0.034	0.039	0.041
Total	0.812	0.84	0.919	0.787	0.808	0.817
Area	Astorian, Bering Island	Republic of Korea	Northern Russia	Germany	Germany	Germany
Race				Ethnic minorities in Austria	Ethnic minorities in Bosnia and Herzegovina	Ethnic minorities in Croatia

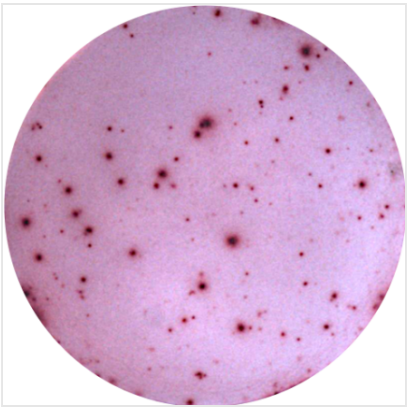
Application Data

	USA			America			Mexico		
	1	2	3	1	2	3	1	2	3
A *02:01	0.123	0.275	0.285	0.297	0.192	0.279	0.094	0.275	0.302
A *11:01	0.024	0.063	0.051	0.053	0.061	0.06	0.045	0.051	0.051
A *14:02	0.028	0.102	0.112	0.077	0.086	0.096	0.19	0.145	0.196
A *15:01	0.001	0.024	0.054	0.247	0.04	0.033	0.17	0.05	0.058
A *02:06		0.004	0.02				0.14		
A *02:07									
A *33:03	0.04	0.003	0.008		0.03	0.037	0.002	0.05	0.025
A *01:01	0.05	0.01	0.014	0.027	0.025	0.037	0.005	0.03	0.248
A *02:01									
A *11:02									
A *03:01	0.099	0.129	0.106	0.053	0.051	0.101	0.007	0.055	0.037
A *01:01	0.016	0.142	0.043	0.091	0.096	0.002	0.065	0.025	0.025
A *14:02	0.024	0.041	0.024	0.063	0.025	0.04	0.002	0.017	0.017
Total	0.445	0.793	0.615	0.8	0.601	0.781	0.612	0.735	0.931
Area	USA	USA	USA	Brazil	Brazil	Brazil	Mexico	California	Rural Chiapas
Race	African American	Eastern European	South American Indians				The Maya of La Canton, Chiapas		

Application Data



Application Data
Gene frequencies of 13 kinds of predominant HLA-A molecules in Eastern Asian, Southeast Asian, American and European populations (The data from <http://www.allele frequencies.net/hla6002a>. Asp



Application Data
Contents

Related Product Information for Quantitative, For Hepatitis B Virus Specific T Cells detection kit	HLA-A molecules are main HLA class I molecules which present viral or tumor antigenic peptides to CD8+ T cells and induce cytotoxic effects in vivo. HBV has four main protein antigens: surface antigen (HBsAg), E antigen (HBeAg, including core antigen HBcAg), DNA polymerase (HBpol) and X protein (HBx). According to their amino acid sequences of these HBV antigens and bioinformatics analyses, we predict hundreds of antigenic peptides presented by 13 kinds of predominant HLA-A molecules which cover vast majority of populations, in Eastern Asian, Southeast Asian, American and European populations (see Additional Notes). Then flesh peripheral blood specimens are collected from more than 700 hepatitis B patients, PBMCs are co-cultured for 20 hours with each peptide followed by detection of IFN-gamma-secreting T cells using the enzyme-linked immune spot (ELISPOT) assay and flow cytometry. Positive result means that there have been the epitope-specific active or memory T cells in the patients' peripheral blood before the co-culture, implying the real immunogenicity of the indicated peptide in HBV-infected patients. Consequently, 105 kinds of peptides (9-10 aa per peptide) have been verified to function as antigenic T cell epitopes that can stimulate T cells to activate and produce IFN-gamma. Furthermore, molecular structure bioinformatics analyses has been carried out. The epitope peptide and the HLA protein crystal structure were docked using the Glide 5.7 module in the Schrodinger Suite, and the Desmond module was used to complete the molecular dynamics simulation. Finally, the affinity of these positive peptides to related HLA-A molecules was determined according to the RMSD results. Then the corss-restriction of HLA-A molecules with indicated peptide was defined. Among these 105 kinds of antigenic peptides, 31, 25, 29 and 20 kinds derive from HBsAg, HBeAg (containing HBcAg), HBpol and HBx proteins, respectively. They almost cover the full length of each HBV protein antigen, and can be cross-presented by the 13 dominant HLA-A molecules. The 105 kinds of antigenic peptides are finally arranged into seven peptide pools to prepare the pool-array ELISPOT kit for the quantitative analyses of active/memory HBV-specific T cells in patients. It is suitable for the vast majority of hepatitis B patients. The HBV-specific T cells activated by these antigenic peptides are mainly CD8+ T cells, partly CD4+ T cells, because about 30% of antigenic peptides can also activate CD4+ T cells simultaneously in this co-culture system. According to the results of blood samples from more than 300 hepatitis B patients, the preliminary reference range of hepatitis B population in China was obtained. 1. The reference value range provided in this manual depends on the results obtained from a large number of Chinese hepatitis B patients, using daily fresh anticoagulant blood samples tested within 5 hours. Considering the ethnic and geographic differences of patients and the inter-laboratory errors such as cell counting, washing and spot judgment criteria, it is better for the local laboratory to determine their own reference range for the regional patients. 2. The whole process from blood cell separation to cell culture should be strictly aseptic to prevent bacterial contamination. If there is slight bacterial contamination, experimental wells and negative control well will be strongly positive, thus leading to fail. 3. The pipette tip should not touch the PVDF membrane in the well bottom. The indentation or notch caused by tip may lead to misjudgment of spots. 4. The microplate is placed inside the protective plate base and can be removed only after the color developing is completed. 5. Different pipettes, washing protocols, incubation time and temperature may affect the experimental results. 6. Different batches of reagents should not be mixed. Warning: 1. The blood samples detected are derived from the human body and should take into account the potential risk of infection. The treatment, use, storage and placement of all samples and their components shall comply with the relevant national regulations. 2. The reagents contain biological preservatives. Avoid contact with skin. Wear appropriate gloves during operation. 3. The chromogenic solution is irritating to eyes, respiratory system and skin. Respiratory inhalation, skin contact or oral intake are harmful to the human body. When using the chromogenic solution, avoid inhalation of steam and spray, avoid skin and eye contact, use appropriate protective clothing, glasses and take skin protection facilities. 4. The test results of the kit are only used as the basis for clinical auxiliary identification of the disease for research use only.
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References

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- Examples of clinical specimen detection case diagram

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/detection-kits/quantitative-for-hepatitis-b-virus-specific-t-cells/27976>