



CERTIFICATE OF ANALYSIS

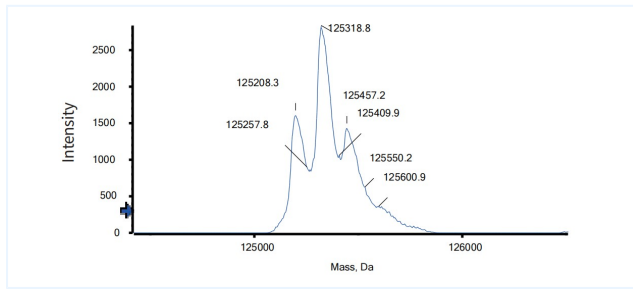


Product Details

Product name:	Anti-CTLA4 & PD-1 Reference Antibody (Vudalimab)	Lot.No.:	P267988C
Target:	CTLA-4 / CD152, PDCD1 / PD-1 / CD279	Catalog:	CHBA069
Target Accession:	P16410 & Q15116	Concentration :	1 mg/mL
Clonality:	Bispecific	Isotype:	Half IgG+ScFv
Reactivity:	Human	Molecular Weight (kDa) :	125.43 kDa
Application:	Kinetics (SPR), ELISA, Bioactivity: FACS, Functional assay, Research in vivo	Endotoxin:	<1 EU/mg
Formulation:	Liquid: 100mM Pro-Ac, 20mM Arg pH 5.0 Lyophilization: 25mM histidine, 8% sucrose, 0.01% Tween80 pH6.2	Conjugation:	Unconjugated
Reconstitution:	For Powder, reconstitute with sterile, distilled water to a final concentration of 1 mg/ml. Gently shake to solubilize completely. Do not vortex.	Expression System:	CHO
Storage:	Upon receipt, store immediately at -20°C or lower for 24 months. Store aliquots at -80°C for up to 3 months. Avoid repeated freeze-thaw cycles.	Purification:	Protein A

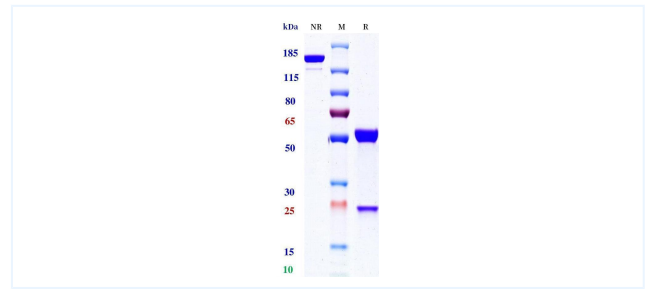
Data

MASS



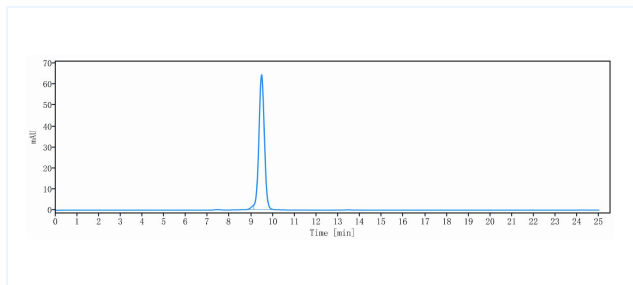
The detected molecular weight of Anti-CTLA4 & PD-1 Reference Antibody (Vudalimab) is 125.32 kDa.

Purity: SDS-PAGE



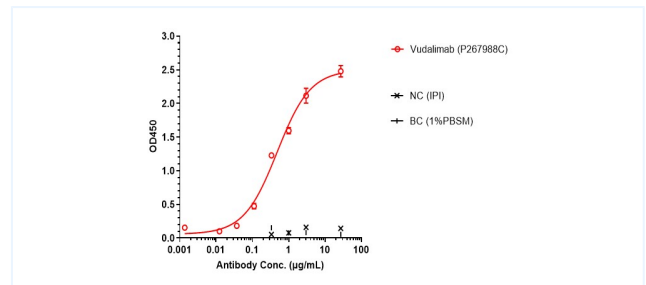
Anti-CTLA4 & PD-1 Reference Antibody (Vudalimab) on SDS-PAGE under reducing (R) condition. The purity of the protein is greater than 95%.

Purity: SEC-HPLC



The purity of Anti-CTLA4 & PD-1 Reference Antibody (Vudalimab) is 98.25%, determined by SEC-HPLC.

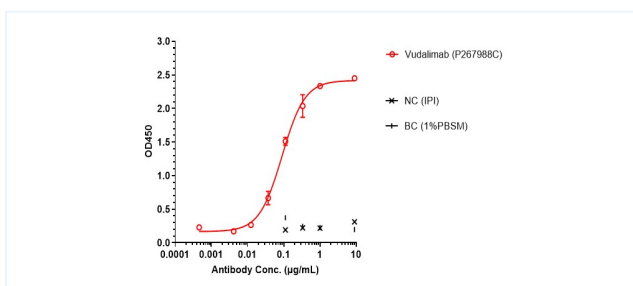
ELISA



Vudalimab bound to CTLA4 protein, and then rebounded to secondary antibodies (Anti-human-IgG-Fc-HRP), and read OD450. As shown in fig, Vudalimab bound to hu-CTLA4-His, and the EC50 was 0.480 nM.

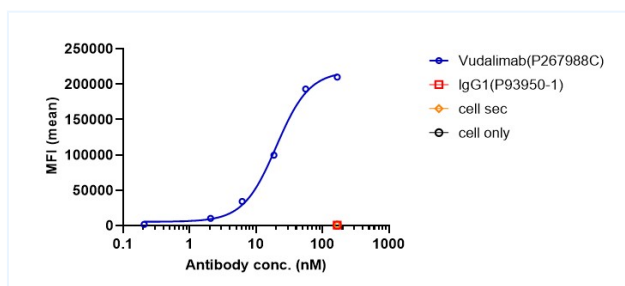
The products are for research use only. Not for use in diagnostic procedures.

ELISA



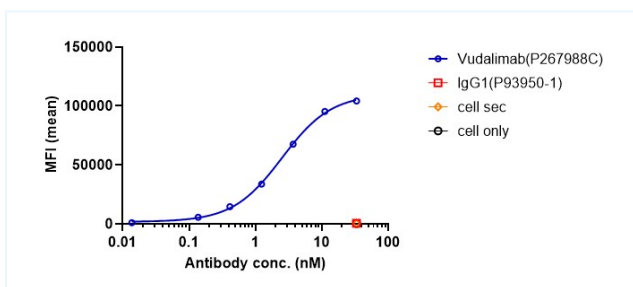
Vudalimab bound to PD-1 protein, and then rebounded to secondary antibodies(Anti-human-IgG-Fc-HRP), and read OD450. As shown in fig, Vudalimab bound to huPD-1-His, and the EC50 was 0.090 nM.

Bioactivity: FACS



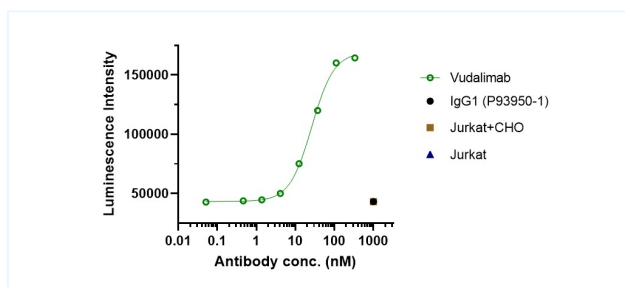
Vudalimab bound to CTLA4-CHO-K cells, and then rebounded to fluorescent secondary antibodies(Anti-human IgG, Fcy PE), and test by flow cytometry. As shown in fig, Vudalimab bound to CTLA4-CHO-K cells, and the EC50 was 20.150 nM.

Bioactivity: FACS



Vudalimab bound to huPD-1-Jurkat cells, and then rebounded to fluorescent secondary antibodies(Anti-human IgG, Fcy PE), and test by flow cytometry. As shown in fig, Vudalimab bound to huPD-1-Jurkat cells, and the EC50 was 2.508 nM.

Function: Luciferase



Co-incubation of Vudalimab with PD-1-NF-AT-Jurkat and CD3L-huPD-L1-CHO-K cells and incubated for 6 hours. Bright-Lite was used to detect the fluorescent signal. As shown in fig, Vudalimab was able to block the PD-1/PD-L1 signaling pathway.

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