Datasheet for ABIN7543070

Recombinant anti-PDCD1 (Nivolumab Biosimilar) antibody (AA 1-167)

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Overview

Quantity:	200 µg
Target:	PDCD1 (Nivolumab Biosimilar)
Binding Specificity:	AA 1-167
Reactivity:	Human
Host:	Mouse
Antibody Type:	Recombinant Antibody
Clonality:	Chimeric
Application:	Flow Cytometry (FACS), Blocking Reagent (BR), Immunohistochemistry (IHC), Surface Plasmon Resonance (SPR)

Product Details

Purpose:	Anti-PD-1 [5C4.B8 (Nivolumab)], Mouse IgG1, kappa
Immunogen:	mAb PD1.5 was prepared by immunizing IgH and IgK knock-out transgenic mice possessing a human immunoglobulin (heavy chain) minilocus with recombinant human PD-1-Fc protein consisting of the extracellular domain of PD-1 (amino acids 1-167) and the Fc portion of human IgG1, and Chinese hamster ovary (CHO) cells expressing human PD-1. Nivolumab was generated by grafting the variable regions of PD1.5 onto human kappa and IgG4 constant regions containing an S228P mutation (prevents Fab arm exchange with endogenous IgG4 antibodies).
Clone:	5C4-B8
Isotype:	IgG1 kappa

Product Details

Specificity:	Nivolumab binds to the extracellular portion of human PD-1 (2.6 nM - Scatchard analysis and SPR) - the antibody also binds to cynomolgus PD-1 with a similar affinity (3.9 nM - SPR). The antibody does not bind to other immunoglobulin superfamily proteins such as CD28, CTLA-4, ICOS and BTLA. The epitope of Nivolumab for both human and cynomolgus PD-1 includes the sequences SFVLNWYR-MSPSNQTDKLAAFPEDR (aa 29-53) and SGTYLCGAISLAPKAQIKE (aa 85-103), as shown by mass spectrometry of protease-treated fragments of PD-1 - these residues are thought to additionally be important for liand binding to PD-1. PD-1 is an inhibitory receptor expressed on the surface of T cells. It is able to bind to its ligands PDL-1 and PDL-2 which results in an inhibitory signal leading to decreased T cell proliferation, cytokine protuction and cytotoxic activtiy. PDL-1 is often expressed in human tumors such as melanoma, lung and kidney where it is able to overactivate PD-1 and plays a role in the evasion of cancer cells from the immune system.
Cross-Reactivity:	Cynomolgus
Characteristics:	Original Species of Ab: Human Original Format of Ab: IgG4
Purification:	Protein A affinity purified

Target Details

Target:	PDCD1 (Nivolumab Biosimilar)
Abstract:	PDCD1 (Nivolumab Biosimilar) Products
Target Type:	Biosimilar
Background:	CD279, programmed death-1, programmed death 1 , PD1, PD 1, Programmed cell death protein 1, hPD-1, hPD1, hPD 1, BMS-936558, MDX-1106,ONO-4538
UniProt:	Q15116

Application Details

Application Notes:	Nivolumab has been shown to bind to PD-1-expressing CHO cells (EC50 ~1.66nM). Nivolumab binds CD4+ T cells (EC50 ~0.64 nM) and stains only memory and effector, and not naiive CD4+ or CD8+ T cells from human peripheral blood by FC. The antibody is able to block the interaction between PD-1 and its ligands PDL-1 and PDL-2 (IC50 ~2.52 nM and ~2.59 nM, respectively - determined by SPR) - these IC50 values are also similar to that measured by FACS to evaluate ligand binding to PD-1 expressed on CHO cells. In an allogenic T-cell/DC MLR,

Application Details

	Nivolumab-mediated inhibition of PD-1 results in enhancement of IFNγ release, and also enhances IL-2 secretion (97-139 % over an isotype control) in response to the superantigen SEB using human peripheral blood mononuclear cells. The same is also observed in a CMV-restimulation assay. Nivolumab at very low concentrations (~1.5 ng/mL) is able to enhance T-cell reactivity in the presence of a T-cell receptor stimulus - nivolumab has no stimulatory effect in the absence of antigen or T-cell receptor stimulus. In the therapeutically used human IgG4 (S228P) format, this antibody is unable to mediate ADCC (antibody-dependent cell-mediated cytotoxicity) or CDC (complement-dependent cytotoxicity).
Comment:	This chimeric mouse antibody was made using the variable domain sequences of the original human IgG4 (S228P) format, for improved compatibility with existing reagents, assays and techniques. NOT FOR THERAPEUTIC USE- This is a research-grade biosimilar. This is a chimeric antibody created for improved compatibility with existing reagents, assays and techniques.
Restrictions:	For Research Use only

Handling

Concentration:	1 mg/mL
Buffer:	PBS with 0.02 % Proclin 300.
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.