

Anti-PD-1 [5C4.B8 (Nivolumab)] Standard size

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Description: Recombinant monoclonal antibody to PD-1. Manufactured using AbAb's Recombinant Platform with variable regions (i.e. specificity) from the hybridoma 5C4.B8 (Nivolumab).

Isotype and Format: Human IgG4-P,

Clone Number: 5C4.B8 (Nivolumab)

UniProt Accession Number of Target Protein:

Published Application(s): IHC; FC; SPR; block

Published Species Reactivity: Human; cynomolgus

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).

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-MSPSNQTDKLAAPEDR (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 ligand 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 production and cytotoxic activity. 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.

Antibody First Published in:

Wang et al. Cancer Immunol Res. 2014 Sep;2(9):846-56. [PMID:24872026](#) **Note on publication:** Describes the generation and characterization of the anti-PD-1 antibody nivolumab, including its specificity, binding affinity and its in vivo and in vitro properties.

Product Form

This is a Standard size product. Purified antibody.

Purification: Protein A affinity purified

Supplied in: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°C.

Concentration: See vial label

Product Code: Ab00791-13.12

Human IgG4-P

Important note - This product is for research use only. It is not intended for use in therapeutic or

