

PD-1 Antibody [12A7D7]
Catalog # ASC12004**Specification****PD-1 Antibody [12A7D7] - Product Information**

Application	WB, IHC-P, E
Primary Accession	Q15116
Other Accession	EDL39922 , 148707975
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Application Notes	PD-1 antibody can be used for detection of PD-1 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL.

PD-1 Antibody [12A7D7] - Additional Information

Gene ID	5133
Target/Specificity	
PDCD1;	

Reconstitution & Storage

Antibody can be stored at 4°C up to one year. Antibodies should not be exposed to prolonged high temperatures

Precautions

PD-1 Antibody [12A7D7] is for research use only and not for use in diagnostic or therapeutic procedures.

PD-1 Antibody [12A7D7] - Protein Information

Name PDCD1 {ECO:0000303|PubMed:7851902, ECO:0000312|HGNC:HGNC:8760}

Function

Inhibitory receptor on antigen activated T-cells that plays a critical role in induction and maintenance of immune tolerance to self (PubMed:21276005, PubMed:37208329). Delivers inhibitory signals upon binding to ligands CD274/PDCD1L1 and CD273/PDCD1LG2 (PubMed:21276005). Following T-cell receptor (TCR) engagement, PDCD1 associates with CD3- TCR in the immunological synapse and directly inhibits T-cell activation (By similarity). Suppresses T-cell activation through the recruitment of PTPN11/SHP-2: following ligand-binding, PDCD1 is phosphorylated within the ITSM motif, leading to the recruitment of the protein tyrosine phosphatase PTPN11/SHP-2 that mediates dephosphorylation of key TCR proximal signaling molecules, such as ZAP70, PRKCQ/PKCtheta and

CD247/CD3zeta (By similarity).

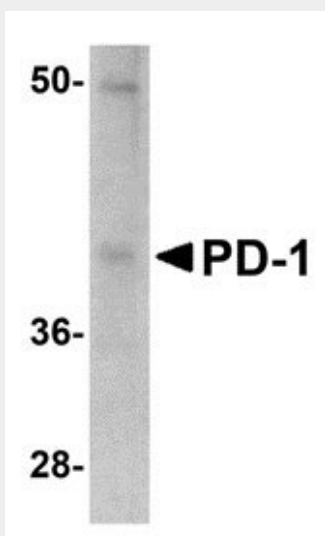
Cellular Location

Cell membrane; Single-pass type I membrane protein

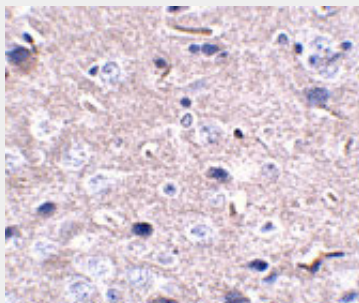
PD-1 Antibody [12A7D7] - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PD-1 Antibody [12A7D7] - Images

Western blot analysis of PD-1 in A-20 cell lysate with PD-1 antibody at 1 µg/mL.



Immunohistochemistry of PD-1 in mouse brain tissue with PD-1 antibody at 2.5 µg/mL.

PD-1 Antibody [12A7D7] - Background

PD-1 Monoclonal Antibody: Cell-mediated immune responses are initiated by T lymphocytes that

are themselves stimulated by cognate peptides bound to MHC molecules on antigen-presenting cells (APC). T-cell activation is generally self-limited as activated T cells express receptors such as PD-1 (also known as PDCD-1) that mediate inhibitory signals from the APC. PD-1 can bind two different but related ligands, PDL-1 and PDL-2. Upon binding to either of these ligands, signals generated by PD-1 inhibit the activation of the immune response in the absence of "danger signals" such as LPS or other molecules associated with bacteria or other pathogens. Evidence for this is seen in PD1-null mice who exhibit hyperactivated immune systems and autoimmune diseases. Despite its predicted molecular weight, PD-1 often migrates at higher molecular weight in SDS-PAGE.

PD-1 Antibody [12A7D7] - References

Holling TM, Schooten E, and van Den Elsing PJ. Function and regulation of MHC class II molecules in T-lymphocytes: of mice and men. *Hum. Immunol.* 2004; 65:282-90.

Ishida Y, Agata Y, Shibahara K, et al. Induced expression of PD-1, a novel member of the immunoglobulin gene superfamily, upon programmed cell death. *EMBO J.* 1992; 11:3887-95.

Zhong X, Bai C, Gao W, et al. Suppression of expression and function of negative immune regulator PD-1 by certain pattern recognition and cytokine receptor signals associated with immune system danger. *Int. Immunol.* 2004; 16:1181-8.

Nishimura H, Nose M, Hiai H, et al. Development of lupus-like autoimmune diseases by the disruption of the PD-1 gene encoding an ITIM motif-carrying immunoreceptor. *Immunity* 1999; 11:141-51.