PD-1 Antibody
Catalog # ASC10512

Specification

PD-1 Antibody - Product Information

Application	**WB, IHC**
Primary Accession	Q15116
Other Accession	Q15116, 145559515
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 32 kDa**
	Observed: 43 kDa KDa
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 5 µg/mL.**

PD-1 Antibody - Additional Information

Gene ID	**5133**

Other Names
PD-1 Antibody: PD1, PD-1, CD279, SLEB2, hPD-1, hPD-l, hSLE1, PD1, Programmed cell death protein 1, Protein PD-1, programmed cell death 1

Target/Specificity
PDCD1;

Reconstitution & Storage
PD-1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
PD-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PD-1 Antibody - 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). Delivers inhibitory signals upon binding to ligands CD274/PDCD1L1 and CD273/PDCD1LG2 (PubMed:<a

href="http://www.uniprot.org/citations/21276005" target="_blank">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).
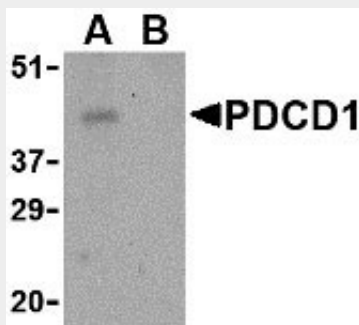
Cellular Location
Cell membrane; Single-pass type I membrane protein

PD-1 Antibody - Protocols

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

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

PD-1 Antibody - Images

Western blot analysis of PD-1 in THP-1 cell lysate with PD-1 antibody at 1 µg/mL in the (A) absence and (B) presence of blocking peptide.
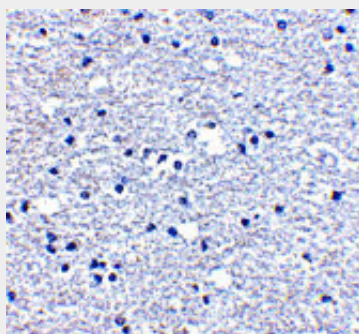
Immunohistochemistry of PD-1 in human brain tissue with PD-1 antibody at 5 µg/mL.

PD-1 Antibody - Background

PD-1 Antibody: Cell-mediated immune responses are initiated by T lymphocytes that are themselves stimulated by cognate peptides bound to MHC molecules on antig en-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.

PD-1 Antibody - 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. Immunity1999; 11:141-51.