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PDL-1 Antibody

Catalog # ASC10509

Product Information

Application	WB, IF, FC, E, IHC-P
Primary Accession	Q9NZQ7
Other Accession	NP_054862, 7661534
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	33275
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PDL-1 antibody can be used for detection of PDL-1 by Western blot at 0.5 - 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL. Flow cytometry at 0.5 g/ml.

Additional Information

Gene ID	29126
Other Names	PDL-1 Antibody: B7-H, B7H1, PDL1, PD-L1, PDCD1L1, PDCD1LG1, Programmed cell death 1 ligand 1, B7 homolog 1, CD274 molecule
Target/Specificity	CD274; PDL-1 antibody has no cross-reactivity to PDL-2.
Reconstitution & Storage	PDL-1 antibody can be stored at 4°C for three months and -20°C, 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	PDL-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CD274 (HGNC:17635)
Function	Plays a critical role in induction and maintenance of immune tolerance to self (PubMed:11015443, PubMed:28813410, PubMed:28813417, PubMed:31399419). As a ligand for the inhibitory receptor PDCD1/PD-1, modulates the activation threshold of T-cells and limits T-cell effector response (PubMed:11015443, PubMed:28813410, PubMed:28813417, PubMed:36727298). Through a yet unknown activating receptor, may costimulate T-cell subsets that predominantly produce interleukin-10 (IL10) (PubMed:10581077). Can also act as a transcription coactivator: in response

	to hypoxia, translocates into the nucleus via its interaction with phosphorylated STAT3 and promotes transcription of GSDMC, leading to pyroptosis (PubMed:32929201).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Early endosome membrane; Single-pass type I membrane protein. Recycling endosome membrane; Single-pass type I membrane protein. Nucleus. Note=Associates with CMTM6 at recycling endosomes, where it is protected from being targeted for lysosomal degradation (PubMed:28813417). Translocates to the nucleus in response to hypoxia via its interaction with phosphorylated STAT3 (PubMed:32929201). [Isoform 2]: Endomembrane system; Single-pass type I membrane protein
Tissue Location	Highly expressed in the heart, skeletal muscle, placenta and lung. Weakly expressed in the thymus, spleen, kidney and liver. Expressed on activated T- and B-cells, dendritic cells, keratinocytes and monocytes.

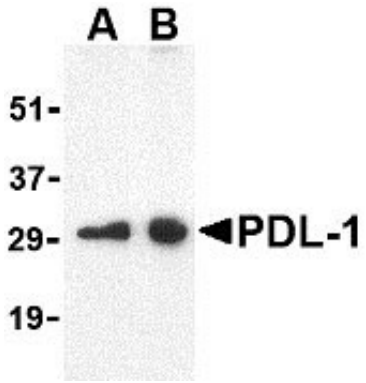
Background

PDL-1 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. PDL-1 is a B7-related protein that inhibits cell-mediated immune responses by reducing the secretion of IL-2 and IL-10 from memory T cells. This suggests that PDL-1 may be useful in reducing allogenic CD4+ memory T-cell responses to endothelial cells, thereby reducing the likelihood of host immune responses to allografts. At least two isoforms of PDL-1 are known to exist; this antibody is specific to the larger isoform.

References

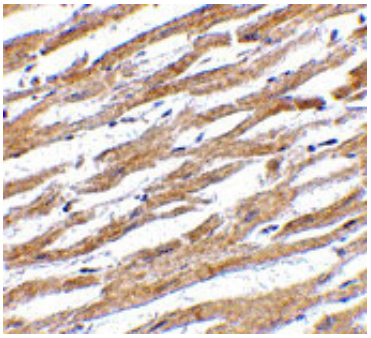
Holling TM, Schooten E, and van Den Elsing PJ. Function and regulation of MHC class II molecules in T-lymphocytes: of mice and men. Hum. Immunol. 2004; 65:282-90.
Ishida Y, Agata Y, Shibahara K, et al. Induced expression of PD-1, a novel member of the immunoglobulin gene superfamily, upon programmed cell death. EMBO J. 1992; 11:3887-95.
LaGier J and Pober JS. Immune accessory functions of human endothelial cells are modulated by overexpression of B7-H1 (PDL1). Hum. Immunol. 2006; 67:568-78.

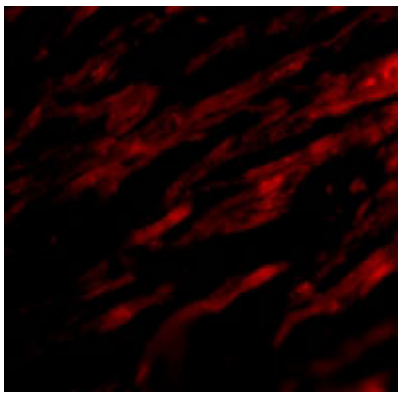
Images



Western blot analysis of PDL-1 in Raji cell lysate with PDL-1 antibody at (A) 0.5 and (B) 1 µg/mL.

Immunohistochemistry of PDL-1 in human heart tissue with PDL-1 antibody at 2.5 µg/mL.





Immunofluorescence of PDL-1 in Human Heart cells with PDL-1 antibody at 20 µg/mL.