

# PDL1 Antibody [8E12]

Catalog # ASC12136

## Product Information

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|-------------------|---------------------------|
| Application       | WB, IHC-P, IF, ICC, E     |
| Primary Accession | <a href="#">Q9NZQ7</a>    |
| Other Accession   | <a href="#">NP_054862</a> |
| Host              | Mouse                     |
| Clonality         | Monoclonal                |
| Isotype           | IgG1                      |
| Clone Names       | CD274                     |
| Calculated MW     | 33275                     |

## Additional Information

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| Gene ID                  | 29126                                                                                                                                                                                                                                           |
| Alias Symbol             | CD274                                                                                                                                                                                                                                           |
| Other Names              | PD-L1 Antibody: Programmed cell death 1 ligand-1, programmed death ligand 1, PDL1, PDL-1, B7-H1                                                                                                                                                 |
| Reconstitution & Storage | PD-L1 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              | PDL1 Antibody [8E12] is for research use only and not for use in diagnostic or therapeutic procedures.                                                                                                                                          |

## Protein Information

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| Name              | CD274 ( <a href="#">HGNC:17635</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Function          | Plays a critical role in induction and maintenance of immune tolerance to self (PubMed: <a href="#">11015443</a> , PubMed: <a href="#">28813410</a> , PubMed: <a href="#">28813417</a> , PubMed: <a href="#">31399419</a> ). As a ligand for the inhibitory receptor PDCD1/PD-1, modulates the activation threshold of T-cells and limits T-cell effector response (PubMed: <a href="#">11015443</a> , PubMed: <a href="#">28813410</a> , PubMed: <a href="#">28813417</a> , PubMed: <a href="#">36727298</a> ). Through a yet unknown activating receptor, may costimulate T-cell subsets that predominantly produce interleukin-10 (IL10) (PubMed: <a href="#">10581077</a> ). 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: <a href="#">32929201</a> ). |
| 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**

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PD-L1 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) (1). 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 (2). PD-1 can bind two different but related ligands, PD-L1 and PD-L2. PD-L1 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 (3). This suggests that PD-L1 may be useful in reducing allogenic CD4+ memory T-cell responses to endothelial cells, thereby reducing the likelihood of host immune responses to allografts. PD-L1 also functions as an immune checkpoint protein, and multiple anti-PD-L1 antibodies are currently in phase II and III clinical trials, with one antibody already approved for the treatment of cancer (4).

## **References**

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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. Aydin AM, Wolde SL, Hutchinson RC, et al. Spotlight on atezolizumab and its potential in the treatment of advanced urothelial bladder cancer. *Onco. Targets Ther.* 2017;10:1487-502.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.