SANTA CRUZ BIOTECHNOLOGY, INC.

# PD-L1 (D-8): sc-518027

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Engagement of CD28 by B7-1 (CD80) or B7-2 (CD86) in the presence of antigen promotes T cell proliferation, cytokine production, differentiation of effector T cells, and the induction of Bcl-x, a promoter of T cell survival. Conversely, engagement of CTLA4 by B7-1 or B7-2 may inhibit proliferation and IL-2 production. PD-L1 (programmed cell death ligand-1), also known as B7-H1 or Pdcd-1L1, is 290 amino acid type I transmembrane protein which is 20% and 15% identical to B7-1 and B7-2, respectively. Pdcd-1L2 has immunoglobulin V-like and C-like domains and a 30 amino acid cytoplasmic tail. It does not bind CD28, cytotoxic T-lymphocyte A4 or ICOS (inducible co-stimulator). IL-2, although produced in small amounts, is required for the effect of PD-L1 co-stimulation. The gene which encodes PD-L1 maps to human chromosome 9p24.1. PD-L2 (programmed cell death ligand-2) is a 73 amino acid protein which contains a signal sequence, IgV- and IgC-like domains, a transmembrane region and a cytoplasmic region. The gene which encodes PD-L2 maps to human chromosome 9p24.2. The constitutive expression of PD-L1 and PD-L2 on parenchymal cells of heart, lung and kidney suggests that the Pdcd-1-Pdcd-L system could provide unique negative signaling to help prevent autoimmune disease.

## REFERENCES


1. Dong, H., et al. 1999. B7-H1, a third member of the B7 family, co-stimulates T cell proliferation and interleukin-10 secretion. Nat. Med. 5: 1365-1369.
2. Freeman, G.J., et al. 2000. Engagement of the PD-1 immunoinhibitory receptor by a novel B7 family member leads to negative regulation of lymphocyte activation. J. Exp. Med. 192: 1027-1034.


## CHROMOSOMAL LOCATION

Genetic locus: CD274 (human) mapping to 9p24.1; Cd274 (mouse) mapping to 19 C1.

## SOURCE

PD-L1 (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 218-243 near the C-terminus of PD-L1 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PD-L1 (D-8) is available conjugated to agarose (sc-518027 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518027 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518027 PE), fluorescein (sc-518027 FITC), Alexa Fluor® 488 (sc-518027 AF488), Alexa Fluor® 546 (sc-518027 AF546), Alexa Fluor® 594 (sc-518027 AF594) or Alexa Fluor® 647 (sc-518027 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518027 AF680) or Alexa Fluor® 790 (sc-518027 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

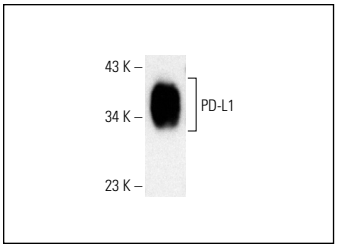
PD-L1 (D-8) is recommended for detection of PD-L1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PD-L1 siRNA (h): sc-39699, PD-L1 siRNA (m): sc-39700, PD-L1 shRNA Plasmid (h): sc-39699-SH, PD-L1 shRNA Plasmid (m): sc-39700-SH, PD-L1 shRNA (h) Lentiviral Particles: sc-39699-V and PD-L1 shRNA (m) Lentiviral Particles: sc-39700-V.

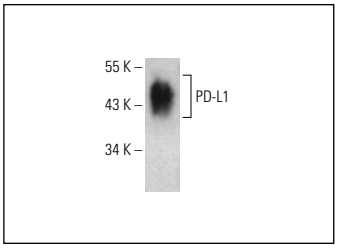
Molecular Weight (predicted) of PD-L1: 33 kDa.

Molecular Weight (observed) of PD-L1: 47 kDa.

## DATA




PD-L1 (D-8): sc-518027. Western blot analysis of human recombinant PD-L1.




PD-L1 (D-8): sc-518027. Western blot analysis of mouse recombinant PD-L1.

## SELECT PRODUCT CITATIONS


1. Azarbarzin, S., et al. 2020. MicroRNA-383-5p restrains the proliferation and migration of breast cancer cells and promotes apoptosis via inhibition of PD-L1. Life Sci. 267: 118939.
2. Shahgolzari, M., et al. 2021. Alfalfa mosaic virus nanoparticles-based in situ vaccination induces antitumor immune responses in breast cancer model. Nanomedicine 16: 97-107.
3. Ou, W., et al. 2023. *In-situ* cryo-immune engineering of tumor microenvironment with cold-responsive nanotechnology for cancer immunotherapy. Nat. Commun. 14: 392.
4. Talavera Guillén, N.C., et al. 2023. Clinical implications of immune checkpoints and the RANK/RANK-L signaling pathway in high-grade canine mast cell tumors. Animals 13: 1888.
5. Han, N.R., et al. 2023. Maltol has anti-cancer effects via modulating PD-L1 signaling pathway in B16F10 cells. Front. Pharmacol. 14: 1255586.


## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.