

PD-L2 (TY25): sc-57398



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

- Dong, H., Zhu, G., Tamada, K. and Chen, L. 1999. B7-H1, a third member of the B7 family, co-stimulates T-cell proliferation and interleukin-10 secretion. *Nat. Med.* 5: 1365-1369.
- Freeman, G.J., Long, A.J., Iwai, Y., Bourque, K., Chernova, T., Nishimura, H., Fitz, L.J., Malenkovich, N., Okazaki, T., Byrne, M.C., Horton, H.F., Fouser, L., Carter, L., Ling, V., Bowman, M.R., Carreno, B.M., Collins, M., 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.
- Latchman, Y., Wood, C.R., Chernova, T., Chaudhary, D., Borde, M., Chernova, I., Iwai, Y., Long, A.J., Brown, J.A., Nunes, R., Greenfield, E.A. and Bourque, K. 2001. PD-L2 is a second ligand for PD-1 and inhibits T cell activation. *Nat. Immunol.* 2: 261-268.
- Nishimura, H. and Honjo, T. 2001. PD-1: an inhibitory immunoreceptor involved in peripheral tolerance. *Trends Immunol.* 22: 265-268.
- LocusLink Report (LocusID: 605402). <http://www.ncbi.nlm.nih.gov/LocusLink>

CHROMOSOMAL LOCATION

Genetic locus: Pdcd1lg2 (mouse) mapping to 19 C1.

SOURCE

PD-L2 (TY25) is a rat monoclonal antibody raised against PD-L2 transfected RAW264.7 cells of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PD-L2 (TY25) is available conjugated to agarose (sc-57398 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-57398 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-57398 PE), fluorescein (sc-57398 FITC), Alexa Fluor® 488 (sc-57398 AF488), Alexa Fluor® 546 (sc-57398 AF546), Alexa Fluor® 594 (sc-57398 AF594) or Alexa Fluor® 647 (sc-57398 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-57398 AF680) or Alexa Fluor® 790 (sc-57398 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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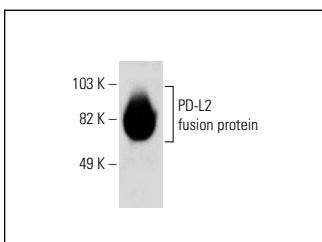
APPLICATIONS

PD-L2 (TY25) is recommended for detection of PD-L2 of mouse origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

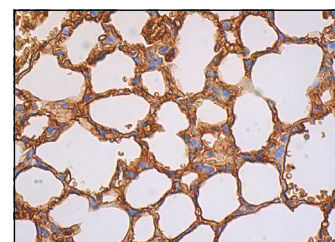
Suitable for use as control antibody for PD-L2 siRNA (m): sc-39702, PD-L2 shRNA Plasmid (m): sc-39702-SH and PD-L2 shRNA (m) Lentiviral Particles: sc-39702-V.

Molecular Weight of PD-L2: 32 kDa.

DATA



PD-L2 (TY25): sc-57398. Western blot analysis of mouse recombinant PD-L2 fusion protein.



PD-L2 (TY25): sc-57398. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lung tissue showing membrane and cytoplasmic staining of pneumocytes and macrophages.

SELECT PRODUCT CITATIONS

- Wang, Y., Liu, J., Yang, X., Liu, Y., Li, Y., Sun, L., Yang, X. and Niu, H. 2018. Bacillus Calmette-Guérin and anti-PD-L1 combination therapy boosts immune response against bladder cancer. *Onco Targets Ther.* 11: 2891-2899.

RESEARCH USE

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