SANTA CRUZ BIOTECHNOLOGY, INC.

PD-L2 (XX19): sc-80285

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., 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.
2. 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.
3. 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. Immun. 2: 261-268.
4. Nishimura, H. and Honjo, T. 2001. PD-1: an inhibitory immunoreceptor involved in peripheral tolerance. Trends Immunol. 22: 265-268.
5. LocusLink Report (LocusID: 605402). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: PDCD1LG2 (human) mapping to 9p24.2.

SOURCE

PD-L2 (XX19) is a mouse monoclonal antibody raised against the extracellular domain of PD-L2 of human origin.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

PD-L2 (XX19) is recommended for detection of PD-L2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PD-L2 siRNA (h): sc-39701, PD-L2 shRNA Plasmid (h): sc-39701-SH and PD-L2 shRNA (h) Lentiviral Particles: sc-39701-V.

Molecular Weight of PD-L2: 32 kDa.

SELECT PRODUCT CITATIONS

1. Ogiya, R., Niikura, N., Kumaki, N., Bianchini, G., Kitano, S., Iwamoto, T., Hayashi, N., Yokoyama, K., Oshitanai, R., Terao, M., Morioka, T., Tsuda, B., Okamura, T., Saito, Y., Suzuki, Y. and Tokuda, Y. 2016. Comparison of tumor-infiltrating lymphocytes between primary and metastatic tumors in breast cancer patients. Cancer Sci. 107: 1730-1735.
2. Jeong, S., Lee, N., Park, M.J., Jeon, K. and Song, W. 2021. Currently used laboratory methodologies for assays detecting PD-1, PD-L1, PD-L2 and soluble PD-L1 in patients with metastatic breast cancer. Cancers 13: 5225.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.