SANTA CRUZ BIOTECHNOLOGY, INC.

Pdcd-1L1 (N-20): sc-19090

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. Pdcd-1L1 (programmed cell death ligand-1), also known as B7-H1 or PD-L1, 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 costimulator). IL-2, although produced in small amounts, is required for the effect of Pdcd-1L1 co-stimulation. The gene which encodes Pdcd-1L1 maps to human chromosome 9p24. Pdcd-1L2 (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 Pdcd-1L2 maps to human chromosome 9p24.2. The constitutive expression of Pdcd-1L1 and Pdcd-1L2 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.
3. Latchman, Y., et al. 2001. PD-L2 is a second ligand for PD-1 and inhibits T cell activation. Nat. Immun. 2: 261-268.
4. Nishimura, H., et al. 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: CD274 (human) mapping to 9p24.1.

SOURCE

Pdcd-1L1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Pdcd-1L1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19090 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Pdcd-1L1 (N-20) is recommended for detection of Pdcd-1L1 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Pdcd-1L1 (N-20) is also recommended for detection of Pdcd-1L1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Pdcd-1L1 siRNA (h): sc-39699, Pdcd-1L1 shRNA Plasmid (h): sc-39699-SH and Pdcd-1L1 shRNA (h) Lentiviral Particles: sc-39699-V.

Molecular Weight (predicted) of Pdcd-1L1: 33 kDa.

Molecular Weight (observed) of Pdcd-1L1: 47 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or AML-193 whole cell lysate: sc-364182.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Liu, J., et al. 2007. Plasma cells from multiple myeloma patients express B7-H1 (PD-L1) and increase expression after stimulation with IFN-γ and TLR ligands via a MyD88-, TRAF6-, and MEK-dependent pathway. Blood 110: 296-304.

RESEARCH USE

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

PROTOCOLS

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