SANTA CRUZ BIOTECHNOLOGY, INC.

PD-L1 (1C10): sc-293425

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.

CHROMOSOMAL LOCATION

Genetic locus: CD274 (human) mapping to 9p24.1.

SOURCE

PD-L1 (1C10) is a mouse monoclonal antibody raised against amino acids 18-238 representing partial length PD-L1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PD-L1 (1C10) is recommended for detection of PD-L1 of human 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)] 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 shRNA Plasmid (h): sc-39699-SH and PD-L1 shRNA (h) Lentiviral Particles: sc-39699-V.

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

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

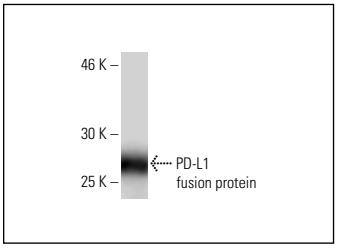
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

DATA



PD-L1 (1C10): sc-293425. Western blot analysis of human recombinant PD-L1 fusion protein.

SELECT PRODUCT CITATIONS

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2. Medina Enríquez, M.M., et al. 2018. Cancer immunotherapy using polypurine reverse Hoogsteen hairpins targeting the PD-1/PD-L1 pathway in human tumor cells. PLoS ONE 13: e0206818.
3. Mazewski, C., et al. 2019. Anthocyanins, delphinidin-3-O-glucoside and cyanidin-3-O-glucoside, inhibit immune checkpoints in human colorectal cancer cells *in vitro* and in silico. Sci. Rep. 9: 11560.
4. Shan, T., et al. 2020. M2-TAM subsets altered by lactic acid promote T-cell apoptosis through the PD-L1/PD-1 pathway. Oncol. Rep. 44: 1885-1894.
5. Rasoolnezhad, M., et al. 2021. MiRNA-138-5p: a strong tumor suppressor targeting PD-L-1 inhibits proliferation and motility of breast cancer cells and induces apoptosis. Eur. J. Pharmacol. 896: 173933.
6. Feng, X., et al. 2021. Banxia xiexin decoction affects drug sensitivity in gastric cancer cells by regulating MGMT expression via IL-6/JAK/Stat3-mediated PD-L1 activity. Int. J. Mol. Med. 48: 165.
7. Li, Y., et al. 2022. microRNA-378a-3p regulates the progression of hepatocellular carcinoma by regulating PD-L1 and Stat3. Bioengineered 13: 4730-4743.
8. Fadaee, M., et al. 2022. Docosahexaenoic acid may promote immune evasion of colorectal cancer cells through targeting immune checkpoint and immunomodulator genes and their controlling microRNAs. Biofactors 48: 1137-1144.
9. Deng, S., et al. 2023. p53 downregulates PD-L1 expression via miR-34a to inhibit the growth of triple-negative breast cancer cells: a potential clinical immunotherapeutic target. Mol. Biol. Rep. 50: 577-587.

RESEARCH USE

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