

B7-1 (F-7): sc-376012

BACKGROUND

T cell proliferation and lymphokine production are triggered by occupation of the TCR by antigen, followed by a costimulatory signal that is delivered by a ligand expressed on antigen presenting cells. The B7-related cell surface proteins CD80 (B7-1) and CD86 (B7-2) are expressed on antigen presenting cells, bind the homologous T cell receptors CTLA-4 (cytotoxic T lymphocyte-associated protein-4) and CD28 and trigger costimulatory signals for optimal T cell activation. CTLA-4 shares 31% overall amino acid identity with CD28 and it has been proposed that CD28 and CTLA-4 are functionally redundant. SLAMF7 is a novel receptor on T cells that, when engaged, potentiates T cell expansion in a CD28-independent manner. B7, also designated BB1, is another ligand or counterreceptor for CD28 and CTLA-4 that is expressed on the antigen-presenting cell.

CHROMOSOMAL LOCATION

Genetic locus: CD80 (human) mapping to 3q13.33; Cd80 (mouse) mapping to 16 B4.

SOURCE

B7-1 (F-7) is a mouse monoclonal antibody raised against amino acids 35-242 of B7-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

B7-1 (F-7) is available conjugated to agarose (sc-376012 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376012 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376012 PE), fluorescein (sc-376012 FITC), Alexa Fluor® 488 (sc-376012 AF488), Alexa Fluor® 546 (sc-376012 AF546), Alexa Fluor® 594 (sc-376012 AF594) or Alexa Fluor® 647 (sc-376012 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376012 AF680) or Alexa Fluor® 790 (sc-376012 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

B7-1 (F-7) is recommended for detection of B7-1 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 B7-1 siRNA (h): sc-29773, B7-1 siRNA (m): sc-37204, B7-1 shRNA Plasmid (h): sc-29773-SH, B7-1 shRNA Plasmid (m): sc-37204-SH, B7-1 shRNA (h) Lentiviral Particles: sc-29773-V and B7-1 shRNA (m) Lentiviral Particles: sc-37204-V.

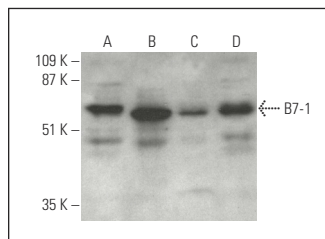
Molecular Weight of B7-1: 60 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, U-698-M whole cell lysate: sc-364799 or RAW 264.7 whole cell lysate: sc-2211.

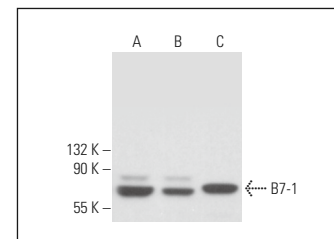
STORAGE

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

DATA



B7-1 (F-7) HRP: sc-376012 HRP. Direct western blot analysis of B7-1 expression in Ramos (A), HL-60 (B), RAW 264.7 (C) and CCRF-CEM (D) whole cell lysates.



B7-1 (F-7): sc-376012. Western blot analysis of B7-1 expression in U-698-M (A), HL-60 (B) and RAW 264.7 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Kang, J.H., et al. 2019. B7-1 drives TGF-β stimulated pancreatic carcinoma cell migration and expression of EMT target genes. *PLoS ONE* 14: e0222083.
- Nikovics, K., et al. 2020. Hybridization-chain-reaction is a relevant method for *in situ* detection of M2d-like macrophages in a mini-pig model. *FASEB J.* 34: 15675-15686.
- Nikovics, K., et al. 2021. Characterization of macrophages, giant cells and granulomas during muscle regeneration after irradiation. *Cytokine* 137: 155318.
- Matusaka, K., et al. 2022. Distinct roles in phagocytosis of the early and late increases of cell surface calreticulin induced by oxaliplatin. *Biochem. Biophys. Rep.* 29: 101222.
- Tsoukas, R.L., et al. 2022. A human *in vitro* model to study adenoviral receptors and virus cell interactions. *Cells* 11: 841.
- Manea, S.A., et al. 2022. Pharmacological inhibition of lysine-specific demethylase 1A reduces atherosclerotic lesion formation in apolipoprotein E-deficient mice by a mechanism involving decreased oxidative stress and inflammation; potential implications in human atherosclerosis. *Antioxidants* 11: 2382.
- Ma, B., et al. 2022. CHI3L1 enhances melanoma lung metastasis via regulation of T cell co-stimulators and CTLA-4/B7 axis. *Front. Immunol.* 13: 1056397.
- Ohkawa, Y., et al. 2023. Involvement of langerin in the protective function of a keratan sulfate-based disaccharide in an emphysema mouse model. *J. Biol. Chem.* 299: 105052.
- Xiong, L., et al. 2024. Immunopotentiating effects of herb-partitioned moxibustion on the spleens of cyclophosphamide-induced immunosuppressed rats. *Chin. Med.* 19: 28.

RESEARCH USE

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