

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. SLAM 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.

REFERENCES

- Freeman, G.J., et al. 1991. Structure, expression, and T cell costimulatory activity of the murine homologue of the human B lymphocyte activation antigen B7. *J. Exp. Med.* 174: 625-631.
- Schwartz, R.H. 1992. Costimulation of T lymphocytes: the role of CD28, CTLA-4, and B7/BB1 in interleukin-2 production and immunotherapy. *Cell* 71: 1065-1068.
- Peach, R.J., et al. 1995. Both extracellular immunoglobulin-like domains of CD80 contain residues critical for binding T cell surface receptors CTLA-4 and CD28. *J. Biol. Chem.* 270: 21181-21187.
- Fargeas, C.A., et al. 1995. Identification of residues in the V domain of CD80 (B7-1) implicated in functional interactions with CD28 and CTLA4. *J. Exp. Med.* 182: 667-675.

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 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.

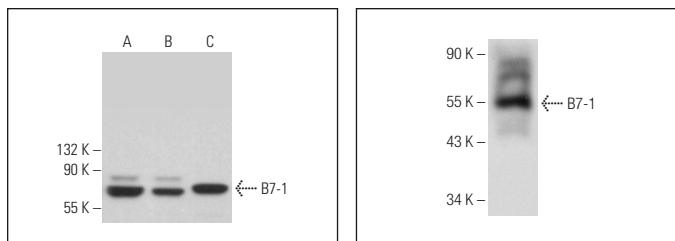
Molecular Weight of B7-1: 60 kDa.

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.

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



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. B7-1 (F-7): sc-376012. Western blot analysis of B7-1 expression in human PBL whole cell lysate.

STORAGE

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

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.