

CD28 (152-2E10): sc-21770

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 CD28 and CTLA-4 (cytotoxic T lymphocyte-associated protein-4) 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

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- Körmendy, D., et al. 2013. Impact of the CTLA-4/CD28 axis on the processes of joint inflammation in rheumatoid arthritis. *Arthritis Rheum.* 65: 81-87.
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- Chen, L. and Flies, D.B. 2013. Molecular mechanisms of T cell co-stimulation and co-inhibition. *Nat. Rev. Immunol.* 13: 227-242.

CHROMOSOMAL LOCATION

Genetic locus: CD28 (human) mapping to 2q33.2.

SOURCE

CD28 (152-2E10) is a mouse monoclonal antibody raised against PHA stimulated human PBL.

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.

CD28 (152-2E10) is available conjugated to either phycoerythrin (sc-21770 PE) or fluorescein (sc-21770 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

CD28 (152-2E10) is recommended for detection of CD28 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 flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for CD28 siRNA (h): sc-29983, CD28 shRNA Plasmid (h): sc-29983-SH and CD28 shRNA (h) Lentiviral Particles: sc-29983-V.

Molecular Weight of CD28 monomer: 44 kDa.

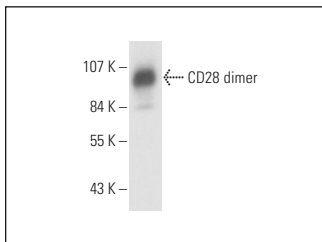
Molecular Weight of CD28 homodimer: 90 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

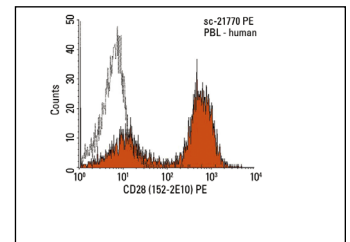
RECOMMENDED SUPPORT REAGENTS

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).

DATA



CD28 (CD28.1): sc-19654. Western blot analysis of CD28 expression in Jurkat whole cell lysate.



CD28 (152-2E10) PE: sc-21770 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG₁-PE: sc-2866.

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.