

CD137 (0.N.185): sc-70531

BACKGROUND

CD137, also designated ILA and 4-1BB in mouse, belongs to the tumor necrosis factor receptor family and delivers a costimulatory signal to T lymphocytes. CD137 is expressed on activated T cells and binds an inducible ligand that is found on B cells, macrophages and dendritic cells. Interactions between CD137 and its ligand are involved in antigen presentation and the generation of cytotoxic T cells. Crosslinking of the CD137 ligand induces apoptosis in resting lymphocytes. In contrast, CD137 regulates peripheral monocyte survival by inducing a cytokine release profile, and is mediated by M-CSF and to a lesser extent by granulocyte-macrophage colony-stimulating factor and IL-3. Soluble forms of CD137 are found in sera from patients with rheumatoid arthritis and may provide a negative control mechanism for immune responses.

REFERENCES

1. Michel, J., et al. 1999. CD-137-induced apoptosis is independent of CD95. *Immunology* 98: 42-46.
2. Langstein, J. and Schwarz, H. 1999. Identification of CD137 as a potent monocyte survival factor. *J. Leukoc. Biol.* 65: 829-833.
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4. Kienzle, G. and von Kempis, J. 2000. CD137 (ILA/4-1BB), expressed by primary human monocytes, induces monocyte activation and apoptosis of B lymphocytes. *Int. Immunol.* 12: 73-82.
5. Michel, J. and Schwarz, H. 2000. Expression of soluble cd137 correlates with activation-induced cell death of lymphocytes. *Cytokine* 12: 742-746.
6. Dimberg, J., et al. 2006. Expression of CD137 and CD137 ligand in colorectal cancer patients. *Oncol. Rep.* 15: 1197-1200.
7. McMillin, DW., et al. 2006. Complete regression of large solid tumors using engineered drug-resistant hematopoietic cells and anti-CD137 immunotherapy. *Hum. Gene Ther.* 17: 798-806.
8. Myers, L., et al. 2006. Combined CD137 (4-1BB) and adjuvant therapy generates a developing pool of peptide-specific CD8 memory T cells. *Int. Immunol.* 18: 325-333.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF9 (human) mapping to 1p36.23.

SOURCE

CD137 (0.N.185) is a mouse monoclonal antibody raised against recombinant CD137 ectodomain 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.

CD137 (0.N.185) is available conjugated to either phycoerythrin (sc-70531 PE) or fluorescein (sc-70531 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

CD137 (0.N.185) is recommended for detection of CD137 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for CD137 siRNA (h): sc-29961, CD137 shRNA Plasmid (h): sc-29961-SH and CD137 shRNA (h) Lentiviral Particles: sc-29961-V.

Molecular Weight of CD137 monomer: 32 kDa.

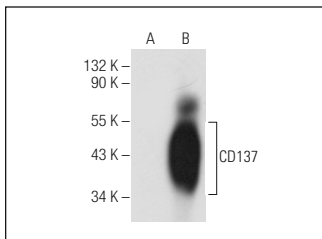
Molecular Weight of CD137 dimer: 85 kDa.

Positive Controls: CD137 (h2): 293T Lysate: sc-175476, Jurkat whole cell lysate: sc-2204 or CCRF-CEM cell lysate: sc-2225.

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



CD137 (0.N.185): sc-70531. Western blot analysis of CD137 expression in non-transfected: sc-117752 (A) and human CD137 transfected: sc-175476 (B) 293T whole cell lysates.

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.