SANTA CRUZ BIOTECHNOLOGY, INC.

CD137 (G-1): sc-365371

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. CD137-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.
3. Langstein, J., et al. 2000. Comparative analysis of CD137 and LPS effects on monocyte activation, survival, and proliferation. Biochem. Biophys. Res. Commun. 273: 117-122.
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, D.W., 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 (G-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 33-61 near the N-terminus of CD137 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-365371 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CD137 (G-1) is recommended for detection of CD137 of 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 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.

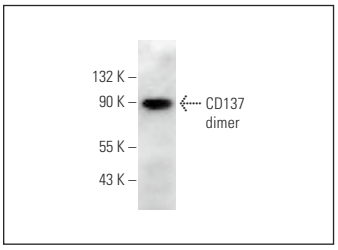
Molecular Weight of CD137 dimer: 85 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CCRF-CEM cell lysate: sc-2225 or MOLT-4 cell lysate: sc-2233.

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 L-Agarose: sc-2336 (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 (G-1): sc-365371. Western blot analysis of CD137 expression in CCRF-CEM whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zong, Y., et al. 2023. 5-HEPE reduces obesity and Insulin resistance by promoting adipose tissue browning through GPR119/AMPK/PGC1α activation. Life Sci. 323: 121703.

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.