SANTA CRUZ BIOTECHNOLOGY, INC.

TWEAK (CARL-1): sc-56248

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Proteins belonging to the tumor necrosis factor (TNF) superfamily are potent mediators of inflammation and of the immune system. Members of the TNF superfamily include TNFβ, lymphotoxin b (LTb), CD40L, CD30L, CD27L, OX40L, 4-1BBL, FAS-L (APO-1) and TRAIL. Most TNF family members are type II transmembrane proteins that are proteolytically processed at their carboxy-terminal extracellular domain to form a soluble homotrimeric molecule. TWEAK (also designated Apo-3L) has been identified as a secreted ligand belonging to the TNF superfamily. TWEAK seems to induce apoptosis weakly, and it may be involved in cell differentiation *in vivo*.

REFERENCES

1. Smith, C.A., Farrah, T. and Goodwin, R.G. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation and death. Cell 76: 959-962.
2. Cosman, D. 1994. A family of ligands for the TNF receptor superfamily. Stem Cells 12: 440-455.
3. Wiley, S.R., Schooley, K., Smolak, P.J., Din, W.S., Huang, C.P., Nicholl, J.K., Sutherland, G.R., Smith, T.D., Rauch, C., Smith, C.A. and Goodwin, R.G. 1995. Identification and characterization of a new member of the TNF family that induces apoptosis. Immunity 3: 673-682.
4. Cleveland, J.L. and Ihle, J.N. 1995. Contenders in FasL/TNF death signaling. Cell 81: 479-482.
5. Baker, S.J. and Reddy, E.P. 1996. Transducers of life and death: TNF receptors superfamily and associated proteins. Oncogene 12: 1-9.
6. Pitti, R.M., Marsters, S.A., Ruppert, S., Donahue, C.J., Moore, A. and Ashkenazi, A. 1996. Induction of apoptosis by Apo-2 ligand, a new member of the TNF cytokine family. J. Biol. Chem. 271: 12687-12690.
7. Chicheportiche, Y., Bourdon, P.R., Xu, H., Hsu, Y.M., Scott, H., Hession, C., Garcia, I. and Browning, J.L. 1997. TWEAK, a new secreted ligand in the TNF family that weakly induces apoptosis. J. Biol. Chem. 272: 32401-32410.

CHROMOSOMAL LOCATION

Genetic locus: TNFSF12 (human) mapping to 17p13.1.

SOURCE

TWEAK (CARL-1) is a mouse monoclonal antibody raised against hTWEAK/2PK-3 transfectant cells.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TWEAK (CARL-1) is available conjugated to either phycoerythrin (sc-56248 PE) or fluorescein (sc-56248 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

TWEAK (CARL-1) is recommended for detection of TWEAK of human origin by flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for TWEAK siRNA (h): sc-37522, TWEAK shRNA Plasmid (h): sc-37522-SH and TWEAK shRNA (h) Lentiviral Particles: sc-37522-V.

Molecular Weight of secreted TWEAK: 18 kDa.

Molecular Weight of TWEAK intact transmembrane: 30-35 kDa.

SELECT PRODUCT CITATIONS

1. Meyer, T., Amaya, M., Desai, H., Robles-Carrillo, L., Hatfield, M., Francis, J.L. and Amirkhosravi, A. 2010. Human platelets contain and release TWEAK. Platelets 21: 571-574.
2. Gil, H.S., Lee, J.H., Farag, A.K., Hassan, A.H.E., Chung, K.S., Choi, J.H., Roh, E.J. and Lee, K.T. 2021. AKF-D52, a synthetic phenoxypyrimidine-urea derivative, triggers extrinsic/intrinsic apoptosis and cytoprotective autophagy in human non-small cell lung cancer cells. Cancers 13: 5849.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.