

# TWEAK (MTW-1): sc-56251

## 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 TNF $\beta$ , 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.
8. Kaplan, M.J., et al. 2000. TRAIL (Apo2 ligand) and TWEAK (Apo3 ligand) mediate CD4<sup>+</sup> T cell killing of antigen-presenting macrophages. *J. Immunol.* 164: 2897-2904.
9. Dogra, C., et al. 2007. TNF-related weak inducer of apoptosis (TWEAK) is a potent skeletal muscle-wasting cytokine. *FASEB J.* 21: 1857-1869.

## CHROMOSOMAL LOCATION

Genetic locus: Tnfsf12 (mouse) mapping to 11 B3.

## SOURCE

TWEAK (MTW-1) is a rat monoclonal antibody raised against full length TWEAK of mouse origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TWEAK (MTW-1) is available conjugated to agarose (sc-56251 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56251 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56251 PE), fluorescein (sc-56251 FITC), Alexa Fluor® 488 (sc-56251 AF488), Alexa Fluor® 546 (sc-56251 AF546), Alexa Fluor® 594 (sc-56251 AF594) or Alexa Fluor® 647 (sc-56251 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56251 AF680) or Alexa Fluor® 790 (sc-56251 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

TWEAK (MTW-1) is recommended for detection of TWEAK of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TWEAK siRNA (m): sc-37523, TWEAK shRNA Plasmid (m): sc-37523-SH and TWEAK shRNA (m) Lentiviral Particles: sc-37523-V.

Molecular Weight of secreted TWEAK: 18 kDa.

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.