



## TREM-2 (G-16): sc-22634

### BACKGROUND

Polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy (PLOS), known as "Nasu-Hakola disease," is a recessively inherited disease where individuals display early-onset progressive dementia and bone cysts, which leads to death. Mutations in TYROBP (DAP12), which codes for a membrane receptor component in natural-killer and myeloid cells and mutations in triggering receptor expressed on myeloid cells-2 (TREM-2), correlate well to the pathology of PLOS. TREM-2 is a cell surface receptor on human monocyte-derived dendritic cells that forms a receptor signaling complex with DAP12 and triggers activation of the immune response in macrophages and dendritic cells (DC). The TREM-2/DAP12 complex is a molecular promoter of upregulation of C-C chemokine receptor 7, partial DC maturation, and DC survival through activation of protein tyrosine kinases and extracellular signal-regulated kinase. The human chronic inflammatory TREM-2 gene maps to chromosome 6p21.1 and encodes a 230 amino acid protein.

### REFERENCES

1. Bouchon, A., Hernandez-Munain, C., Cella, M., and Colonna, M. 2001. A DAP12-mediated pathway regulates expression of C-C chemokine receptor 7 and maturation of human dendritic cells. *J. Exp. Med.* 194: 1111-1122.
2. Daws, M.R., Lanier, L.L., Seaman, W.E., and Ryan, J.C. 2001. Cloning and characterization of a novel mouse myeloid DAP12-associated receptor family. *Eur. J. Immunol.* 31: 783-791.
3. Paloneva, J., Manninen, T., Christman, G., Hovanes, K., Mandelin, J., Adolfsson, R., Bianchin, M., Bird, T., Miranda, R., Salmaggi, A., Tranebjaerg, L., Kontinen, Y., and Peltonen, L. 2002. Mutations in two genes encoding different subunits of a receptor signaling complex result in an identical disease phenotype. *Am. J. Hum. Gen.* 71: 656-662.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605086. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: TREM2 (human) mapping to 6p21.1; Trem2 (mouse) mapping to 17 C.

### SOURCE

TREM-2 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TREM-2 of mouse origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22634 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

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

### APPLICATIONS

TREM-2 (G-16) is recommended for detection of TREM-2a, 2b and 2c of mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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) or our catalog for detailed protocols and support products.