

# TRAP (D-3): sc-376875

## BACKGROUND

Tartrate-resistant acid phosphatase (TRAP, ACP5) is an iron containing glycoprotein that catalyzes the conversion of orthophosphoric monoester to alcohol and orthophosphate. TRAP is the most basic of the acid phosphatases and is the only form not inhibited by L<sup>+</sup>-tartrate. TRAP is a relatively minor lysosomal enzyme which may be activated in certain pathologies such as Hodgkin's disease and B- and T-cell leukemias. Receptor activator of NFκB ligand (RANKL) plays an essential role in osteoclast differentiation and activation by increasing the expression of protease osteoclast markers such as TRAP. TRAP has collagenolytic activity and plays a major role in ligament degradation.

## CHROMOSOMAL LOCATION

Genetic locus: ACP5 (human) mapping to 19p13.2.

## SOURCE

TRAP (D-3) is a mouse monoclonal antibody raised against amino acids 24-323 mapping at the C-terminus of TRAP of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRAP (D-3) is available conjugated to agarose (sc-376875 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376875 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376875 PE), fluorescein (sc-376875 FITC), Alexa Fluor® 488 (sc-376875 AF488), Alexa Fluor® 546 (sc-376875 AF546), Alexa Fluor® 594 (sc-376875 AF594) or Alexa Fluor® 647 (sc-376875 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376875 AF680) or Alexa Fluor® 790 (sc-376875 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

TRAP (D-3) is recommended for detection of TRAP 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), immunohistochemistry (including paraffin-embedded sections) (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 TRAP siRNA (h): sc-44164, TRAP shRNA Plasmid (h): sc-44164-SH and TRAP shRNA (h) Lentiviral Particles: sc-44164-V.

Molecular Weight of TRAP: 34 kDa.

Positive Controls: TRAP (h): 293T Lysate: sc-111796.

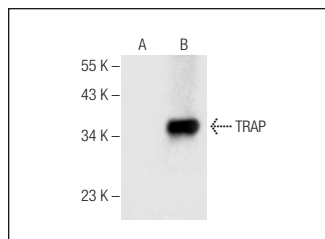
## STORAGE

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

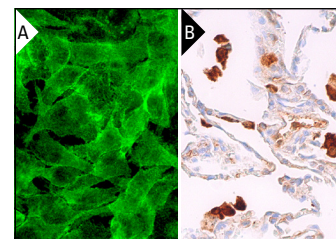
## RESEARCH USE

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

## DATA



TRAP (D-3): sc-376875. Western blot analysis of TRAP expression in non-transfected: sc-117752 (A) and human TRAP transfected: sc-111796 (B) 293T whole cell lysates.



TRAP (D-3): sc-376875. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic staining of macrophages (B).

## SELECT PRODUCT CITATIONS

- Gugliandolo, E., et al. 2018. Anti-inflammatory effect of ATB-352, a H<sub>2</sub>S-releasing ketoprofen derivative, on lipopolysaccharide-induced periodontitis in rats. *Pharmacol. Res.* 132: 220-231.
- Thompson, J., et al. 2019. A cleft lip and palate gene, *Irf6*, is involved in osteoblast differentiation of craniofacial bone. *Dev. Dyn.* 248: 221-232.
- Meng, J., et al. 2020. Catalpol suppresses osteoclastogenesis and attenuates osteoclast-derived bone resorption by modulating PTEN activity. *Biochem. Pharmacol.* 171: 113715.
- Smieszek, A., et al. 2020. The role of miR-21 in osteoblasts-osteoclasts coupling *in vitro*. *Cells* 9: 479.
- Weng, W., et al. 2020. Material-dependent formation and degradation of bone matrix-comparison of two cryogels. *Bioengineering* 7: 52.
- Zhu, S., et al. 2020. Bisphosphonates reduce smoking-induced osteoporotic-like alterations by regulating RANKL/OPG in an osteoblast and osteoclast co-culture model. *Int. J. Mol. Sci.* 22: 53.
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- Sikora, M., et al. 2021. Bone marrow stromal cells (BMSCs CD45<sup>-</sup>/CD44<sup>+</sup>/CD73<sup>+</sup>/CD90<sup>+</sup>) isolated from osteoporotic mice SAM/P6 as a novel model for osteoporosis investigation. *J. Cell. Mol. Med.* 25: 6634-6651.
- de Almeida, J.M., et al. 2022. Antineoplastic agents aggravate the damages caused by nicotine on the peri-implant bone: an *in vivo* histomorphometric and immunohistochemical study in rats. *Clin. Oral Investig.* 26: 1477-1489.

## PROTOCOLS

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