

STAMP2 (T-15): sc-104675

BACKGROUND

STAMP2 (6 transmembrane protein of prostate 2), also known as STEAP4 (STEAP family member 4), TIARP or TNFAIP9, is a 459 amino acid multi-pass membrane protein that localizes to the Golgi apparatus and contains one ferric oxidoreductase domain. Expressed ubiquitously with highest expression in lung, prostate, placenta and heart, STAMP2 functions as a metalloredutase that uses FAD as a cofactor to reduce both Fe³⁺ and Cu²⁺ to Fe²⁺ and Cu¹⁺, respectively. Multiple isoforms of STAMP2 exist due to alternative splicing events. The gene encoding STAMP2 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

- Moldes, M., Lasnier, F., Gauthereau, X., Klein, C., Pairault, J., Fève, B. and Chambaut-Guerin, A.M. 2001. Tumor necrosis factor- α -induced adipose-related protein (TIARP), a cell-surface protein that is highly induced by tumor necrosis factor- α and adipose conversion. *J. Biol. Chem.* 276: 33938-33946.
- Korkmaz, C.G., Korkmaz, K.S., Kurys, P., Elbi, C., Wang, L., Klok, T.I., Hammarstrom, C., Troen, G., Svindland, A., Hager, G.L. and Saatcioglu, F. 2005. Molecular cloning and characterization of STAMP2, an androgen-regulated six transmembrane protein that is overexpressed in prostate cancer. *Oncogene* 24: 4934-4945.
- Ohgami, R.S., Campagna, D.R., McDonald, A. and Fleming, M.D. 2006. The Steap proteins are metalloredutases. *Blood* 108: 1388-1394.
- Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611098. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Zhang, C.M., Chi, X., Wang, B., Zhang, M., Ni, Y.H., Chen, R.H., Li, X.N. and Guo, X.R. 2008. Downregulation of STEAP4, a highly-expressed TNF- α -inducible gene in adipose tissue, is associated with obesity in humans. *Acta Pharmacol. Sin.* 29: 587-592.
- Arner, P., Stenson, B.M., Dungner, E., Näslund, E., Hoffstedt, J., Ryden, M. and Dahlman, I. 2008. Expression of six transmembrane protein of prostate 2 in human adipose tissue associates with adiposity and Insulin resistance. *J. Clin. Endocrinol. Metab.* 93: 2249-2254.
- Kralisch, S., Sommer, G., Weise, S., Lipfert, J., Lossner, U., Kamprad, M., Schröck, K., Bluher, M., Stumvoll, M. and Fasshauer, M. 2009. Interleukin-1 β is a positive regulator of TIARP/STAMP2 gene and protein expression in adipocytes *in vitro*. *FEBS Lett.* 583: 1196-1200.

CHROMOSOMAL LOCATION

Genetic locus: STEAP4 (human) mapping to 7q21.12.

SOURCE

STAMP2 (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of STAMP2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-104675 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

STAMP2 (T-15) is recommended for detection of STAMP2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other STEAP family members.

STAMP2 (T-15) is also recommended for detection of STAMP2 in additional species, including porcine.

Suitable for use as control antibody for STAMP2 siRNA (h): sc-89820, STAMP2 shRNA Plasmid (h): sc-89820-SH and STAMP2 shRNA (h) Lentiviral Particles: sc-89820-V.

Molecular Weight of STAMP2: 52 kDa.

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) 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.

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.

PROTOCOLS

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