

TRAP-1 (h2): 293T Lysate: sc-176654

BACKGROUND

Transforming growth factor β (TGF β) receptor associated binding protein (TRAP-1) participates in the regulation of the TGF β signaling pathway. TGF β is a secreted ligand that induces transcription of various targeted genes involved in cell proliferation, differentiation and apoptosis by sequentially binding to surface TGF β type II receptors and inducing the autophosphorylation of the type II receptor and the transient transactivation of the type I TGF β receptor. The signal is then propagated through the SMAD family of transcription factors, which leads to the expression of the targeted genes. The cytosolic TRAP-1 protein selectively associates with the phosphorylated type I TGF β receptors, but not with the unphosphorylated type I receptors or type II receptors. TRAP-1 binding to the receptor results in the inhibition of TGF β signaling, thereby inhibiting the transcription of TGF β target genes. The carboxy terminus of TRAP-1 is also able to bind to 5-lipoxygenase, a mediator of lipid metabolism for the production of leukotrienes, where it may then regulate the signaling within leukocytes and other inflammatory mediating cells.

REFERENCES

1. Wrana, J.L., Attisano, L., Wieser, R., Ventura, F. and Massague, J. 1994. Mechanism of activation of the TGF β receptor. *Nature* 370: 341-347.
2. Nakao, A., Imamura, T., Souchelnytskyi, S., Kawabata, M., Ishisaki, A., Oeda, E., Tamaki, K., Hanai, J., Heldin, C.H., Miyazono, K. and ten Dijke, P. 1997. TGF β receptor-mediated signaling through SMAD2, SMAD3 and SMAD4. *EMBO J.* 16: 5353-5362.
3. Chang, M.J., Zhang, D., Kinnunen, P. and Schneider, M.D. 1998. A novel protein distinguishes between quiescent and activated forms of the type I transforming growth factor β receptor. *J. Biol. Chem.* 273: 9365-9368.
4. Datta, P.K., Chytil, A., Gorska, A.E. and Moses, H.L. 1998. Identification of STRAP, a novel WD domain protein in transforming growth factor-signaling. *J. Biol. Chem.* 273: 34671-34674.
5. Provost, P., Samuelsson, B. and Radmark, O. 1999. Interaction of 5-lipoxygenase with cellular proteins. *Proc. Natl. Acad. Sci. USA* 96: 1881-1885.

CHROMOSOMAL LOCATION

Genetic locus: TGFBRAP1 (human) mapping to 2q12.1.

PRODUCT

TRAP-1 (h2): 293T Lysate represents a lysate of human TRAP-1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

TRAP-1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive TRAP-1 antibodies. Recommended use: 10-20 μ l per lane.

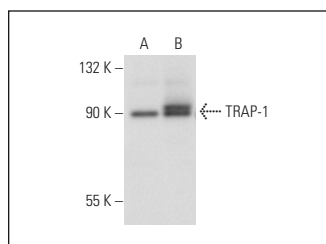
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TRAP-1 (C-8): sc-13134 is recommended as a positive control antibody for Western Blot analysis of enhanced human TRAP-1 expression in TRAP-1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



TRAP-1 (C-8): sc-13134. Western blot analysis of TRAP-1 expression in non-transfected: sc-117752 (A) and human TRAP-1 transfected: sc-176654 (B) 293T whole cell lysates.

RESEARCH USE

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