

STI1 (28): sc-136082

BACKGROUND

Stress-induced-phosphoprotein 1 (STI1) functions as a co-chaperone for HSP 70 and HSP 90 during heat shock response. STI1 exists as either a monomer or a dimer, and this conformational flexibility facilitates its function in organizing HSP 70/HSP 90. HSP 90 acts as an ATPase, and requires the recruitment of client proteins and proper conformation to function. STI1 acts as a "scaffold" for client protein recruitment to the relaxed, ADP-bound conformation of HSP 90, thus suppressing ATP turnover during the loading phase and allowing proper function.

REFERENCES

- Honore, B., et al. 1992. Molecular cloning and expression of a transformation-sensitive human protein containing the TPR motif and sharing identity to the stress-inducible yeast protein STI1. *J. Biol. Chem.* 267: 8485-8491.
- van der Spuy, J., et al. 2001. The co-chaperone murine stress-inducible protein 1: overexpression, purification, and characterization. *Protein Expr. Purif.* 21: 462-469.
- Siligardi, G., et al. 2002. Regulation of HSP 90 ATPase activity by the co-chaperone Cdc37p/p50^{cdc37}. *J. Biol. Chem.* 277: 20151-20159.
- Abbas-Terki, T., et al. 2002. The HSP 90 co-chaperones Cdc37 and STI1 interact physically and genetically. *Biol. Chem.* 383: 1335-1342.
- Zanata, S.M., et al. 2002. Stress-inducible protein 1 is a cell surface ligand for cellular prion that triggers neuroprotection. *EMBO J.* 21: 3307-3316.
- Richter, K., et al. 2003. STI1 is a non-competitive inhibitor of the HSP 90 ATPase. Binding prevents the N-terminal dimerization reaction during the ATPase cycle. *J. Biol. Chem.* 278: 10328-10333.
- Wegele, H., et al. 2003. STI1 is a novel activator of the Ssa proteins. *J. Biol. Chem.* 278: 25970-25976.
- Lee, P., et al. 2004. STI1 and Cdc37 can stabilize HSP 90 in chaperone complexes with a protein kinase. *Mol. Biol. Cell* 15: 1785-1792.
- Sakudo, A., et al. 2005. PrP cooperates with STI1 to regulate SOD activity in PrP-deficient neuronal cell line. *Biochem. Biophys. Res. Commun.* 328: 14-19.

CHROMOSOMAL LOCATION

Genetic locus: STIP1 (human) mapping to 11q13.1; Stip1 (mouse) mapping to 19 A.

SOURCE

STI1 (28) is a mouse monoclonal antibody raised against amino acids 22-143 of STI1 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

RESEARCH USE

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

APPLICATIONS

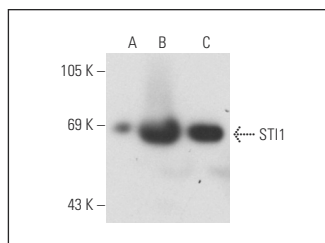
STI1 (28) is recommended for detection of STI1 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for STI1 siRNA (h): sc-106905, STI1 siRNA (m): sc-153893, STI1 shRNA Plasmid (h): sc-106905-SH, STI1 shRNA Plasmid (m): sc-153893-SH, STI1 shRNA (h) Lentiviral Particles: sc-106905-V and STI1 shRNA (m) Lentiviral Particles: sc-153893-V.

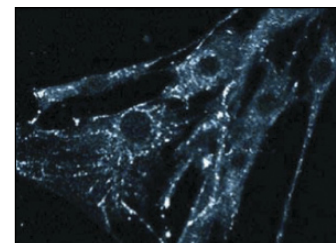
Molecular Weight of STI1: 63 kDa.

Positive Controls: STI1 (m): 293T Lysate: sc-123820, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

DATA



STI1 (28): sc-136082. Western blot analysis of STI1 expression in non-transfected 293T: sc-117752 (A), mouse STI1 transfected 293T: sc-123820 (B) and NIH/3T3 (C) whole cell lysates.



STI1 (28): sc-136082. Immunofluorescence staining of FHs cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

- Walsh, N., et al. 2011. RNAi knockdown of Hop (Hsp70/Hsp90 organising protein) decreases invasion via MMP-2 down regulation. *Cancer Lett.* 306: 180-189.
- Munday, D.C., et al. 2015. Interactome analysis of the human respiratory syncytial virus RNA polymerase complex identifies protein chaperones as important cofactors that promote L-protein stability and RNA synthesis. *J. Virol.* 89: 917-930.
- Prince, T., et al. 2018. Dual targeting of HSP70 does not induce the heat shock response and synergistically reduces cell viability in muscle invasive bladder cancer. *Oncotarget* 9: 32702-32717.

STORAGE

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

PROTOCOLS

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