SANTA CRUZ BIOTECHNOLOGY, INC.

STI1 (K-12): sc-27963

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The Power to Question

BACKGROUND

Stress-induced-phosphoprotein 1 (STI1) functions as a cochaperone 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

1. 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.
2. van der Spuy, J., et al. 2001. The cochaperone murine stress-inducible protein 1: overexpression, purification, and characterization. Protein Expr. Purif. 21: 462-469.
3. Siligardi, G., et al. 2002. Regulation of HSP 90 ATPase activity by the co-chaperone Cdc37p/p50Cdc37. J. Biol. Chem. 277: 20151-20159.
4. Abbas-Terki, T., et al. 2002. The HSP 90 co-chaperones Cdc37 and Sti1 interact physically and genetically. Biol. Chem. 383: 1335-1342.
5. 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.
6. 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.
7. Wegele, H., et al. 2003. Sti1 is a novel activator of the Ssa proteins. J. Biol. Chem. 278: 25970-25976.
8. Lee, P., et al. 2004. Sti1 and Cdc37 can stabilize Hsp90 in chaperone complexes with a protein kinase. Mol. Biol. Cell 15: 1785-1792.
9. 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 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of STI1 of human 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-27963 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

STI1 (K-12) is recommended for detection of STI1 of mouse, rat and 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).

STI1 (K-12) is also recommended for detection of STI1 in additional species, including equine, canine, bovine and porcine.

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: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or NIH/3T3 whole cell lysate: sc-2210.

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.

SELECT PRODUCT CITATIONS

1. Weinkauf, M., et al. 2009. 2-D PAGE-based comparison of proteasome inhibitor bortezomib in sensitive and resistant mantle cell lymphoma. Electrophoresis 30: 974-986.

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.