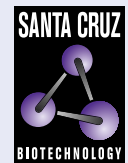


# STCH (A-11): sc-398297



The Power to Question

## BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, which include the assembly and sequestering of multiprotein complexes, transportation of nascent polypeptide chains across cellular membranes and regulation of protein folding. Heat shock proteins (also known as molecular chaperones) fall into six general families: HSP 90, HSP 70, HSP 60, the low molecular weight HSPs, the immunophilins and the HSP 105 family. STCH, also known as HSPA13 (heat shock 70 kDa protein, member 13) or microsomal stress 70 protein ATPase core, is a 471 amino acid protein belonging to the HSP 70 protein family. Localized to the endoplasmic reticulum, STCH has peptide-independent ATPase activity. Fundamentally expressed in all tissues, STCH has been found to interact with PLIC-1 and PLIC-2, proteins involved in the signaling connection between the membrane receptors for Thrombospondin and the cytoskeleton.

## REFERENCES

- Georgopoulos, C. and Welch, W.J. 1993. Role of the major heat shock proteins as molecular chaperones. *Annu. Rev. Cell Biol.* 9: 601-634.
- Otterson, G.A., et al. 1994. STCH encodes the "ATPase core" of a microsomal stress 70 protein. *EMBO J.* 13: 1216-1225.
- Todd, M.J., et al. 1994. Dynamics of the chaperonin ATPase cycle: implications for facilitated protein folding. *Science* 265: 659-666.
- Brodsky, G., et al. 1995. Localization of STCH to human chromosome 21q11.1. *Genomics* 30: 627-628.

## CHROMOSOMAL LOCATION

Genetic locus: HSPA13 (human) mapping to 21q11.2.

## SOURCE

STCH (A-11) is a mouse monoclonal antibody raised against amino acids 49-150 mapping near the N-terminus of STCH 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.

STCH (A-11) is available conjugated to agarose (sc-398297 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398297 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398297 PE), fluorescein (sc-398297 FITC), Alexa Fluor® 488 (sc-398297 AF488), Alexa Fluor® 546 (sc-398297 AF546), Alexa Fluor® 594 (sc-398297 AF594) or Alexa Fluor® 647 (sc-398297 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398297 AF680) or Alexa Fluor® 790 (sc-398297 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

STCH (A-11) is recommended for detection of STCH 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for STCH siRNA (h): sc-91484, STCH shRNA Plasmid (h): sc-91484-SH and STCH shRNA (h) Lentiviral Particles: sc-91484-V.

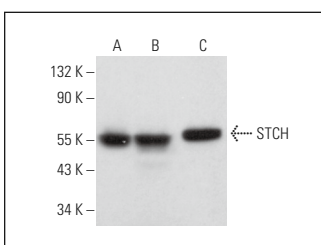
Molecular Weight of STCH: 60 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

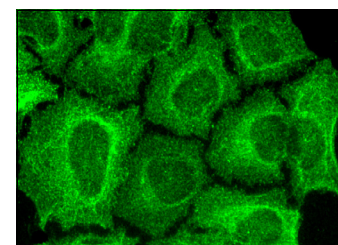
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



STCH (A-11): sc-398297. Western blot analysis of STCH expression in K-562 (A), Hep G2 (B) and MOLT-4 (C) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



STCH (A-11): sc-398297. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Jeppesen, D.K., et al. 2019. Reassessment of exosome composition. *Cell* 177: 428-445.e18.
- Zhang, Q., et al. 2021. Angiotensin-converting enzyme 2-containing extracellular vesicles and exomeres bind the severe acute respiratory syndrome coronavirus 2 spike protein. *Gastroenterology* 160: 958-961.e3.
- Kilinc, S., et al. 2021. Oncogene-regulated release of extracellular vesicles. *Dev. Cell* 56: 1989-2006.e6.

## RESEARCH USE

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