

# Hip (11A6): sc-136175

## BACKGROUND

The HSP 70 family is comprised of four highly conserved proteins: HSP 70, HSC 70, GRP 75 and GRP 78. These proteins serve a variety of functions as molecular chaperones and aid in the assembly of multi-protein complexes. In addition to these specialized functions, the HSP 70 family may play a more general role in stabilizing protein conformation and preventing protein aggregation. HSC 70 in the mitochondrial and endoplasmic reticulum acts as ATP-driven, force-generating motors that translocate proteins across organelle membranes. An HSC 70-interacting protein designated Hip, has been identified as a cochaperone in the HSC 70/HSP 40 reaction cycle. One Hip oligomer binds the ATPase domains of at least two HSC 70 molecules. This association is dependent on the activation of the HSC 70 ATPase by HSP 40. Hip functions to stabilize HSC 70 in the ADP-bound state which has high affinity for substrate protein. Through its own chaperoning activity, Hip may contribute to the substrate specificity of the HSC 70 complex.

## REFERENCES

- Martin, J., et al. 1992. Prevention of protein denaturation under heat stress by the chaperonin HSP 60. *Science* 258: 995-998.
- Hatayama, T., et al. 1992. Effects of low culture temperature on the induction of HSP 70 mRNA and the accumulation of HSP 70 and HSP 105 in mouse FM3A cells. *J. Biochem.* 111: 484-490.
- Bhattacharyya, T., et al. 1995. Cloning and subcellular localization of human mitochondrial HSP 70. *J. Biol. Chem.* 270: 1705-1710.
- Haas, I.G. 1995. Protein-mediated protein maturation in eukaryotes. *FEBS Lett.* 369: 72-75.
- Glick, B.S. 1995. Can HSP 70 proteins act as force-generating motors? *Cell* 80: 11-14.

## CHROMOSOMAL LOCATION

Genetic locus: ST13 (human) mapping to 22q13.2; St13 (mouse) mapping to 15 E1.

## SOURCE

Hip (11A6) is a mouse monoclonal antibody raised against recombinant Hip of rat origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Hip (11A6) is available conjugated to agarose (sc-136175 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-136175 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136175 PE), fluorescein (sc-136175 FITC), Alexa Fluor<sup>®</sup> 488 (sc-136175 AF488), Alexa Fluor<sup>®</sup> 546 (sc-136175 AF546), Alexa Fluor<sup>®</sup> 594 (sc-136175 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-136175 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-136175 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-136175 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Hip (11A6) is recommended for detection of Hip of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Hip siRNA (h): sc-40683, Hip siRNA (m): sc-40684, Hip shRNA Plasmid (h): sc-40683-SH, Hip shRNA Plasmid (m): sc-40684-SH, Hip shRNA (h) Lentiviral Particles: sc-40683-V and Hip shRNA (m) Lentiviral Particles: sc-40684-V.

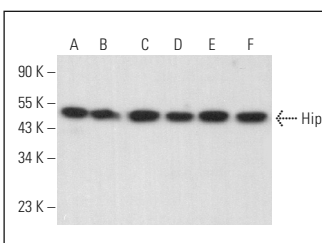
Molecular Weight of Hip: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or 3T3-L1 cell lysate: sc-2243.

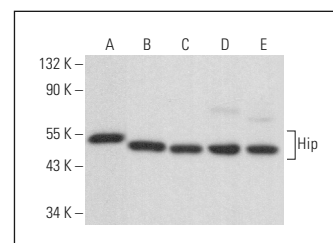
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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).

## DATA



Hip (11A6): sc-136175. Western blot analysis of Hip expression in Jurkat (A), U-87 MG (B), Caco-2 (C), Hep G2 (D), Neuro-2A (E) and NIH/3T3 (F) whole cell lysates.



Hip (11A6): sc-136175. Western blot analysis of Hip expression in HeLa (A), K-562 (B) and 3T3-L1 (C) whole cell lysates and mouse postnatal brain (D) and rat brain (E) tissue extracts.

## SELECT PRODUCT CITATIONS

- Serlidaki, D., et al. 2020. Functional diversity between HSP70 paralogs due to variable interactions with specific co-chaperones. *J. Biol. Chem.* 295: 7301-7316.

## 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](http://www.scbt.com) for detailed protocols and support products.