

# Hrs (D-11): sc-271160

## BACKGROUND

The hepatocyte growth factor-regulated tyrosine kinase substrate (Hrs) is a zinc-finger protein that interacts with STAM and undergoes tyrosine phosphorylation in response to IL2, CSF2 or HGF. Hrs is involved in intracellular trafficking and signal transduction and is associated with early endosomes. Hrs contains a phosphatidylinositol 3-phosphate-binding domain that contributes to its endosomal targeting, where Hrs co-localizes with Clathrin via a Clathrin box motif at the carboxy-terminus of Hrs. Hrs is essential for ventral folding morphogenesis and shares structural similarity to the yeast protein Vps27p, which is involved in vacuolar protein sorting. The human Hrs gene, which maps to chromosome 17q25.3, encodes a 777 amino acid protein. In Schwann cells, Hrs co-localizes at endosomes with the tumor suppressor protein schwannomin, suggesting a role for schwannomin in Hrs-mediated cell signaling.

## REFERENCES

- Asao, H., et al. 1997. Hrs is associated with STAM, a signal-transducing adaptor molecule. Its suppressive effect on cytokine-induced cell growth. *J. Biol. Chem.* 272: 32785-32791.
- Lu, L., et al. 1998. Human Hrs, a tyrosine kinase substrate in growth factor-stimulated cells: cDNA cloning and mapping of the gene to chromosome 17. *Gene* 213: 125-132.
- Scoles, D.R., et al. 2000. The neurofibromatosis 2 tumor suppressor protein interacts with hepatocyte growth factor-regulated tyrosine kinase substrate. *Hum. Mol. Genet.* 9: 1567-1574.
- Raiborg, C., et al. 2001. Hrs recruits clathrin to early endosomes. *EMBO J.* 20: 5008-5021.
- Raiborg, C., et al. 2001. Function of Hrs in endocytic trafficking and signalling. *Biochem. Soc. Trans.* 29: 472-475.
- LocusLink Report (Locus ID: 9146) <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: HGS (human) mapping to 17q25.3; Hgs (mouse) mapping to 11 E2.

## SOURCE

Hrs (D-11) is a mouse monoclonal antibody raised against amino acids 573-651 mapping near the C-terminus of Hrs of mouse 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.

## 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.

## APPLICATIONS

Hrs (D-11) is recommended for detection of Hrs of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 Hrs siRNA (h): sc-41232, Hrs siRNA (m): sc-41233, Hrs shRNA Plasmid (h): sc-41232-SH, Hrs shRNA Plasmid (m): sc-41233-SH, Hrs shRNA (h) Lentiviral Particles: sc-41232-V and Hrs shRNA (m) Lentiviral Particles: sc-41233-V.

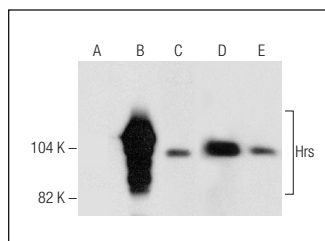
Molecular Weight of Hrs: 115 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HEL 92.1.7 cell lysate: sc-2270 or Hrs (h): 293 Lysate: sc-159949.

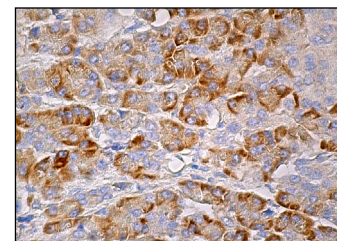
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Hrs (D-11): sc-271160. Western blot analysis of Hrs expression in non-transfected 293: sc-110760 (A), human Hrs transfected 293: sc-159949 (B), HEL 92.1.7 (C), AML-193 (D) and K-562 (E) whole cell lysates.



Hrs (D-11): sc-271160. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.