

HRPAP20 (H-9): sc-166929

BACKGROUND

HRPAP20 (hormone-regulated proliferation-associated protein 20) is a 175 amino acid protein encoded by the human gene NDUFA4. HRPAP20 is a novel hormone-regulated, proliferation-associated protein. In tumor cell lines, constitutive HRPAP20 expression enhanced proliferation and suppressed apoptosis, characteristics frequently associated with malignant progression. Invasive breast cancer cell lines and human breast tumor specimens express elevated HRPAP20, which can increase malignant cell invasion in transfection experiments using such cell lines as MCF7 and MDA-MB-231. Transfection with HRPAP20 will increase secretion of matrix metalloproteinase-9 (MMP-9). Conversely, knockdown of HRPAP20 with small interfering RNA will reduce invasion and inhibit secretion of MMP-9.

REFERENCES

1. Jones, J.L., et al. 2003. Primary breast myoepithelial cells exert an invasion-suppressor effect on breast cancer cells via paracrine down-regulation of MMP expression in fibroblasts and tumour cells. *J. Pathol.* 201: 562-572.
2. Karp, C.M., et al. 2004. Identification of HRPAP20: a novel phosphoprotein that enhances growth and survival in hormone-responsive tumor cells. *Cancer Res.* 64: 1016-1025.
3. Larkins, T.L., et al. 2006. Inhibition of cyclooxygenase-2 decreases breast cancer cell motility, invasion and matrix metalloproteinase expression. *BMC Cancer* 6: 181.
4. Jiang, W.G., et al. 2006. Expression of membrane type-1 matrix metalloproteinase, MT1-MMP in human breast cancer and its impact on invasiveness of breast cancer cells. *Int. J. Mol. Med.* 17: 583-590.
5. Byun, H.J., et al. 2006. A splice variant of CD99 increases motility and MMP-9 expression of human breast cancer cells through the AKT-, ERK-, and JNK-dependent AP-1 activation signaling pathways. *J. Biol. Chem.* 281: 34833-34847.
6. Tozlu-Kara, S., et al. 2007. Oligonucleotide microarray analysis of estrogen receptor α -positive postmenopausal breast carcinomas: identification of HRPAP20 and Timeless as outstanding candidate markers to predict the response to Tamoxifen. *J. Mol. Endocrinol.* 39: 305-318.
7. Karp, C.M., et al. 2007. HRPAP20: a novel calmodulin-binding protein that increases breast cancer cell invasion. *Oncogene* 26: 1780-1788.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA4 (human) mapping to 6q16.1.

SOURCE

HRPAP20 (H-9) is a mouse monoclonal antibody raised against amino acids 1-175 representing full length HRPAP20 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HRPAP20 (H-9) is recommended for detection of HRPAP20 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 HRPAP20 siRNA (h): sc-62476, HRPAP20 shRNA Plasmid (h): sc-62476-SH and HRPAP20 shRNA (h) Lentiviral Particles: sc-62476-V.

Molecular Weight (predicted) of HRPAP20: 20 kDa.

Molecular Weight (observed) of HRPAP20: 25 kDa.

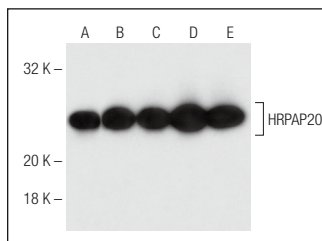
Positive Controls: T-47D cell lysate: sc-2293, MDA-MB-231 cell lysate: sc-2232 or Ramos whole cell lysate: sc-2216.

RECOMMENDED SUPPORT REAGENTS

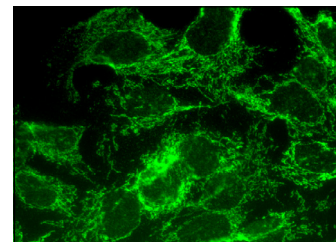
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



HRPAP20 (H-9): sc-166929. Western blot analysis of HRPAP20 expression in T-47D (A), Ramos (B), MDA-MB-231 (C), K-562 (D) and Raji (E) whole cell lysates.



HRPAP20 (H-9): sc-166929. Immunofluorescence staining of formalin-fixed Hep G2 cells showing mitochondrial localization.

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 for detailed protocols and support products.