SANTA CRUZ BIOTECHNOLOGY, INC.

GRP 94 (C-19): sc-1794

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heat shock protein (HSP) molecular chaperones are environmental stress-inducible gene products. The human HSP 90 family includes 17 genes that fall into four classes: HSP90AA, HSP90AB, HSP90B and TRAP. HSP 90 family members guide the normal folding, intracellular disposition and proteolytic turnover of many key regulators of cell growth, differentiation and survival. HSP 90α, also designated HSP90A, HSP 86 and LPS-associated protein 2 (LAP2), is a cytosolic enhancer of inducible nitric-oxide synthase (iNOS), with chaperone activity that is important for the transcriptional activity of p53. HSP 90β, also designated HSP90B, HSP 84 and HSPC2, is a cytosolic protein that participates in signaling pathways with PKC ε to protect cells from external damage, particularly in heat shock-mediated events. GRP 94, also known as tumor rejection antigen 1 (TRA1), ECGP and GP96, localizes to the ER, is highly expressed in BGC-823 human gastric carcinoma cells and is upregulated in human endothelial cells in response to hypoxia by HIF-1. TRAP-1 (TNF receptor-associated protein-1), also designated HSP 75, is a mitochondrial matrix component that plays a role in the induction of apoptosis in response to reactive oxygen species.

CHROMOSOMAL LOCATION

Genetic locus: HSP90B1 (human) mapping to 12q23.3; Hsp90b1 (mouse) mapping to 10 C1.

SOURCE

GRP 94 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of GRP 94 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-1794 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GRP 94 (C-19) is recommended for detection of GRP 94 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, 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 GRP 94 siRNA (h): sc-35523, GRP 94 siRNA (m): sc-35524, GRP 94 shRNA Plasmid (h): sc-35523-SH, GRP 94 shRNA Plasmid (m): sc-35524-SH, GRP 94 shRNA (h) Lentiviral Particles: sc-35523-V and GRP 94 shRNA (m) Lentiviral Particles: sc-35524-V.

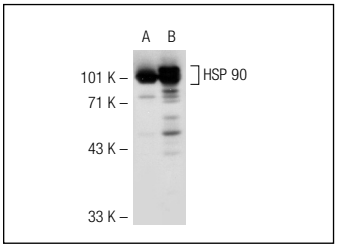
Molecular Weight of GRP 94: 94 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HSP 90 (h2): 293T Lysate: sc-117081 or HeLa whole cell lysate: sc-2200.

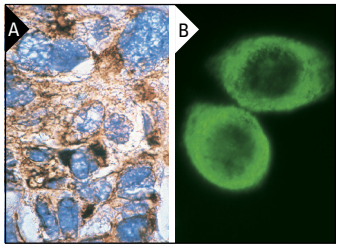
STORAGE

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

DATA



GRP 94 (C-19): sc-1794. Western blot analysis of HSP 90 expression in non-transfected: sc-117752 (**A**) and human HSP 90 transfected: sc-117081 (**B**) 293T whole cell lysates.



GRP 94 (C-19): sc-1794. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue (**A**) and immunofluorescence staining of methanol-fixed HeLa cells (**B**) showing localized staining within the cytoplasm.

SELECT PRODUCT CITATIONS

1. Malina, H.Z. 1999. Xanthurenic acid provokes formation of unfolded proteins in endoplasmic reticulum of the lens epithelial cells. Biochem. Biophys. Res. Commun. 265: 600-605.
2. Kawano, M.A., et al. 2009. Calcium bridge triggers capsid disassembly in the cell entry process of simian virus 40. J. Biol. Chem. 284: 34703-34712.
3. Yung, T.M., et al. 2009. Cellular dynamics of the negative transcription elongation factor NELF. Exp. Cell Res. 315: 1693-1705.
4. Kuliková, L., et al. 2010. NFκB is not directly responsible for photoresistance induced by fractionated light delivery in HT-29 colon adenocarcinoma cells. Photochem. Photobiol. 86: 1285-1293.
5. Takahashi, H., et al. 2011. Overexpression of GRP78 and GRP94 is involved in colorectal carcinogenesis. Histol. Histopathol. 26: 663-671.
6. Lemmens, K., et al. 2011. Activation of the neuregulin/ErbB system during physiological ventricular remodeling in pregnancy. Am. J. Physiol. Heart Circ. Physiol. 300: H931-H942.
7. Li, H., et al. 2012. Knockdown of glucose-regulated protein 78 decreases the invasion, metalloproteinase expression and ECM degradation in hepatocellular carcinoma cells. J. Exp. Clin. Cancer Res. 31: 39.

RESEARCH USE

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