SANTA CRUZ BIOTECHNOLOGY, INC.

GRP 94 (9G10): sc-32249

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 4 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 (9G10) is a rat monoclonal antibody raised against chick oviduct GRP94.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRP 94 (9G10) is available conjugated to agarose (sc-32249 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-32249 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32249 PE), fluorescein (sc-32249 FITC), Alexa Fluor® 488 (sc-32249 AF488), Alexa Fluor® 546 (sc-32249 AF546), Alexa Fluor® 594 (sc-32249 AF594) or Alexa Fluor® 647 (sc-32249 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32249 AF680) or Alexa Fluor® 790 (sc-32249 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GRP 94 (9G10) is recommended for detection of GRP 94 of mouse, rat, human and chicken 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

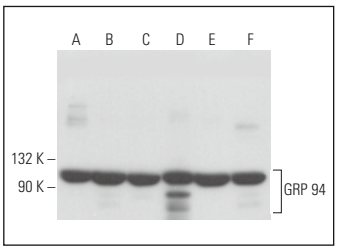
Suitable for use as control antibody for GRP 94 siRNA (h): sc-35523, GRP 94 siRNA (m): sc-35524, GRP 94 shRNA Plasmid (h): sc-35523-SH, GRP 94 shRNA Plasmid (m): sc-35524-SH, GRP 94 shRNA (h) Lentiviral Particles: sc-35523-V and GRP 94 shRNA (m) Lentiviral Particles: sc-35524-V.

Molecular Weight of GRP 94: 94 kDa.

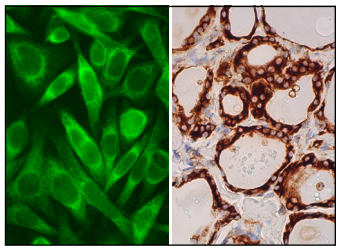
STORAGE

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

DATA



GRP 94 (9G10): sc-32249. Western blot analysis of GRP 94 expression in HEL 92.1.7 (**A**), Hep G2 (**B**), c4 (**C**), 3T3-L1 (**D**), Neuro-2A (**E**) and C6 (**F**) whole cell lysates.



GRP 94 (9G10) Alexa Fluor® 488: sc-32249 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). GRP 94 (9G10): sc-32249. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Mortaz, E., et al. 2006. Acetylsalicylic acid-induced release of HSP70 from mast cells results in cell activation through TLR pathway. Exp. Hematol. 34: 8-18.
2. Xu, D., et al. 2018. Rab18 promotes lipid droplet (LD) growth by tethering the ER to LDs through SNARE and NRZ interactions. J. Cell Biol. 217: 975-995.
3. Foo, B., et al. 2019. Mutation-specific peripheral and ER quality control of hERG channel cell-surface expression. Sci. Rep. 9: 6066.
4. Lee, I.N., et al. 2020. Knockdown of Amphiregulin triggers doxorubicin-induced autophagic and apoptotic death by regulating endoplasmic reticulum stress in glioblastoma cells. J. Mol. Neurosci. 70: 1461-1470.
5. Ma, S., et al. 2021. CD63-mediated cloaking of VEGF in small extracellular vesicles contributes to anti-VEGF therapy resistance. Cell Rep. 36: 109549.
6. Navarro-Betancourt, J.R., et al. 2022. The unfolded protein response transducer IRE1α promotes reticulophagy in podocytes. Biochim. Biophys. Acta Mol. Basis Dis. 1868: 166391.
7. Chung, C.F., et al. 2023. Analysis of gene expression and use of connectivity mapping to identify drugs for treatment of human glomerulopathies. Front. Med. 10: 1122328.
8. Kim, D.Y., et al. 2024. Chronic rapid eye movement sleep deprivation aggravates the pathogenesis of Alzheimer's disease by decreasing brain O-GlcNAc cycling in mice. J. Neuroinflammation 21: 180.

RESEARCH USE

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