# SANTA CRUZ BIOTECHNOLOGY, INC.

# GRP 94 (2H3): sc-53929



## BACKGROUND

Heat shock protein (HSP) molecular chaperones are environmental stressinducible 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 90 $\alpha$ , 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  $\varepsilon$  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.

#### REFERENCES

- 1. Wu, J.M., et al. 2003. PKC  $\epsilon$  is a unique regulator for HSP 90 $\beta$  gene in heat shock response. J. Biol. Chem. 278: 51143-51149.
- Whitesell, L. and Lindquist, S.L. 2005. HSP 90 and the chaperoning of cancer. Nat. Rev. Cancer 5: 761-772.

#### CHROMOSOMAL LOCATION

Genetic locus: HSP90B1 (human) mapping to 12q23.3.

#### SOURCE

GRP 94 (2H3) is a mouse monoclonal antibody raised against amino acids 676-803 of GRP 94 of human origin.

### PRODUCT

Each vial contains 50  $\mu g$  lgG\_{2a} in 500  $\mu l$  of PBS with < 0.1% sodium azide and 0.1% gelatin.

#### APPLICATIONS

GRP 94 (2H3) is recommended for detection of GRP 94 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (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 shRNA Plasmid (h): sc-35523-SH and GRP 94 shRNA (h) Lentiviral Particles: sc-35523-V.

Molecular Weight of GRP 94: 94 kDa.

Positive Controls: HSP 90 (h2): 293T Lysate: sc-117081, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

#### 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 (2H3): sc-53929. 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.

#### SELECT PRODUCT CITATIONS

- Moss, N.M., et al. 2009. Epidermal growth factor receptor-mediated membrane type 1 matrix metalloproteinase endocytosis regulates the transition between invasive versus expansive growth of ovarian carcinoma cells in three-dimensional collagen. Mol. Cancer Res. 7: 809-820.
- Tucker, B.A., et al. 2013. Patient-specific iPSC-derived photoreceptor precursor cells as a means to investigate retinitis pigmentosa. Elife 2: e00824.
- Suradej, B., et al. 2013. Glucosidase II exhibits similarity to the p53 tumor suppressor in regards to structure and behavior in response to stress signals: a potential novel cancer biomarker. Oncol. Rep. 30: 2511-2519.
- Prusty, B.K., et al. 2014. GP96 interacts with HHV-6 during viral entry and directs it for cellular degradation. PLoS ONE 9: e113962.
- Sudsaward, S., et al. 2020. Endoplasmic reticulum stress, unfolded protein response and autophagy contribute to resistance to glucocorticoid treatment in human acute lymphoblastic leukaemia cells. Int. J. Oncol. 57: 835-844.

# **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.



See **GRP 94 (9G10): sc-32249** for GRP 94 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.