SANTA CRUZ BIOTECHNOLOGY, INC.

# GRP 94 (2H3): sc-53929

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. TRAP1 (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 ε is a unique regulator for HSP 90β gene in heat shock response. J. Biol. Chem. 278: 51143-51149.
2. 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 µg $IgG_{2a}$ in 500 µl 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 µg per 100-500 µg 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.

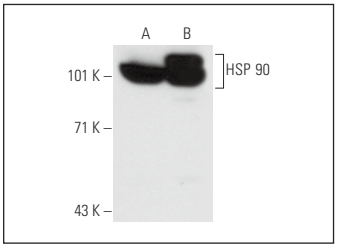
Molecular Weight of GRP 94: 94 kDa.

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


1. 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.
2. Tucker, B.A., et al. 2013. Patient-specific iPSC-derived photoreceptor precursor cells as a means to investigate retinitis pigmentosa. Elife 2: e00824.
3. 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.
4. Prusty, B.K., et al. 2014. GP96 interacts with HHV-6 during viral entry and directs it for cellular degradation. PLoS ONE 9: e113962.
5. 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.

CONJUGATES

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