SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 47 (H-300): sc-8352

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Heat shock proteins (HSPs) are ubiquitously expressed in all organisms. HSP 47, also known as Colligin 1, Serpinh1, Collagen-binding protein 1 (CBP1) and gp46, is expressed in smooth muscle cells, specifically in the interstitial space between tubules, vascular smooth muscle and medullary rays. It is expressed constitutively in cells that synthesize Collagen and is involved in Collagen type I biosynthesis. Significantly, HSP 47 plays a vital role in folding and assembling Collagen. A Procollagen-specific molecular chaperone, HSP 47 resides in the endoplasmic reticulum of Procollagen-producing cells and is essential for secretion of Procollagen from cells. After insult, it acts as a stress response molecule to sequester abnormal Procollagen. HSP 47 synthesis is induced by TGFβ and IL-1β.

CHROMOSOMAL LOCATION

Genetic locus: SERPINH1 (human) mapping to 11q13.5; Serpinh1 (mouse) mapping to 7 E2.

SOURCE

HSP 47 (H-300) is a rabbit polyclonal antibody raised against amino acids 129-300 of HSP 47 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.

APPLICATIONS

HSP 47 (H-300) is recommended for detection of HSP 47 of mouse, rat and 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)], 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).

HSP 47 (H-300) is also recommended for detection of HSP 47 in additional species, including equine and bovine.

Suitable for use as control antibody for HSP 47 siRNA (h): sc-35600, HSP 47 siRNA (m): sc-35601, HSP 47 shRNA Plasmid (h): sc-35600-SH, HSP 47 shRNA Plasmid (m): sc-35601-SH, HSP 47 shRNA (h) Lentiviral Particles: sc-35600-V and HSP 47 shRNA (m) Lentiviral Particles: sc-35601-V.

Molecular Weight of HSP 47: 47 kDa.

Positive Controls: L8 cell lysate: sc-3807, CCD-1064Sk cell lysate: sc-2263 or HeLa whole cell lysate: sc-2200.

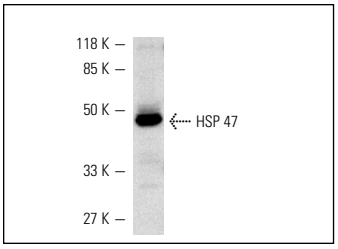
STORAGE

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

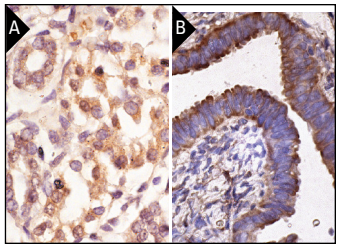
RESEARCH USE

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

DATA



HSP 47 (H-300): sc-8352. Western blot analyis of HSP 47 expression in L8 whole cell lysate.



HSP 47 (H-300): sc-8352. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human fetal kidney showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Yokota, S., et al. 2003. Prevalence of HSP47 antigen and autoantibodies to HSP47 in the sera of patients with mixed connective tissue disease. Biochem. Biophys. Res. Commun. 303: 413-418.
2. Ma, X., et al. 2007. Proteomic analysis of human ovaries from normal and polycystic ovarian syndrome. Mol. Hum. Reprod. 13: 527-535.
3. Wang, Z., et al. 2009. The plasmid encoding HSP 47 enhances collagen expression and promotes skin wound healing in an alloxan-induced diabetic model. Cell Biol. Int. 33: 705-710.
4. Machida, M., et al. 2011. Proteomic comparison of spherical aggregates and adherent cells of cardiac stem cells. Int. J. Cardiol. 153: 296-305.
5. Suzuki, M., et al. 2011. Effect of CO_2 laser irradiation on wound healing of exposed rat pulp. Odontology 99: 34-44.
6. Fragiadaki, M., et al. 2011. Interstitial fibrosis is associated with increased COL1A2 transcription in AA-injured renal tubular epithelial cells *in vivo*. Matrix Biol. 30: 396-403.
7. Kalayarasan, S., et al. 2013. Diallylsulfide attenuates excessive collagen production and apoptosis in a rat model of bleomycin induced pulmonary fibrosis through the involvement of protease activated receptor-2. Toxicol. Appl. Pharmacol. 271: 184-195.
8. Prado, A.A., et al. 2015. Characterization of mesenchymal stem cells derived from the equine synovial fluid and membrane. BMC Vet. Res. 11: 281.

MONOS Satisfaction Guaranteed

Try **HSP 47 (G-12): sc-5293** or **HSP 47 (E-1): sc-13150**, our highly recommended monoclonal aternatives to HSP 47 (H-300).