**BACKGROUND**

Heat shock proteins (HSPs) are ubiquitously expressed in all organisms. HSP 47, also known as collagen 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. 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 (G-12) is a mouse monoclonal antibody raised against amino acids 129-300 of HSP 47 of human origin.

**PRODUCT**

Each vial contains 200 µg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. HSP 47 (G-12) is available conjugated to agarose (sc-5293 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5293 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5293 PE), fluorescein (sc-5293 FITC), Alexa Fluor® 488 (sc-5293 AF488), Alexa Fluor® 546 (sc-5293 AF546), Alexa Fluor® 594 (sc-5293 AF594) or Alexa Fluor® 647 (sc-5293 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FC; and to either Alexa Fluor® 680 (sc-5293 AF680) or Alexa Fluor® 790 (sc-5293 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FC.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

**APPLICATIONS**

HSP 47 (G-12) is recomended 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).

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: LADMAC whole cell lysate: sc-364189, L6 whole cell lysate: sc-364196 or SK-N-SH cell lysate: sc-2410.

**STORAGE**

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

**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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