SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 105 (N-187): sc-6241

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, including the assembly and sequestering of multiprotein complexes, transportation of nascent polypeptide chains across cellular membranes and regulation of protein folding. Heat shock proteins (also known as molecular chaperones) fall into six general families: HSP 90, HSP 70, HSP 60, the low molecular weight HSPs, the immunophilins and the HSP 110 family. The HSP 110 family (also known as the HSP 105 family) is composed of HSP 105, Apg-1 and Apg-2. HSP 105 is a testis-specific and HSP 90-related protein. Research indicates that HSP 105 is specifically localized in the germ cells and may translocate into the nucleus after heat shock. It is suggested that HSP 105 may contribute to the stabilization of p53 proteins in the cytoplasm of the germ cells, preventing the potential induction of apoptosis by p53.

REFERENCES

1. Hatayama, T., et al. 1992. Effects of low culture temperature on the induction of HSP 70 mRNA and the accumulation of HSP 70 and HSP 105 in mouse FM3A cells. J. Biochem. 111: 484-490.
2. Todd, M.J., et al. 1994. Dynamics of the chaperonin ATPase cycle: implications for facilitated protein folding. Science 265: 659-666.

SOURCE

HSP 105 (N-187) is a rabbit polyclonal antibody raised against amino acids 187-512 centrally located within the 858 residue of HSP 105 of mouse 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 105 (N-187) is recommended for detection of HSP 105 and, to a lesser extent, Apg-1 and Apg-2 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 105 (N-187) is also recommended for detection of HSP 105 and, to a lesser extent, Apg-1 and Apg-2 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of HSP 105: 105 kDa.

Positive Controls: HSP 105 (h2): 293T Lysate: sc-175399, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

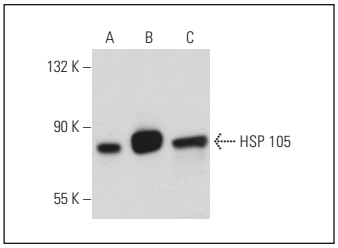
STORAGE

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

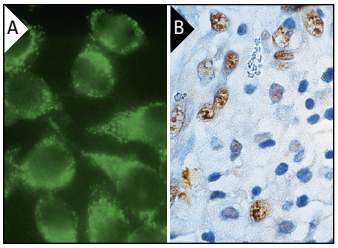
RESEARCH USE

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

DATA



HSP 105 (N-187): sc-6241. Western blot analysis of HSP 105 expression in non-transfected 293T: sc-117752 (**A**), human HSP 105 transfected 293T: sc-175399 (**B**) and HeLa (**C**) whole cell lysates.



HSP 105 (N-187): sc-6241. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma tissue showing nuclear staining (**B**).

SELECT PRODUCT CITATIONS

1. Peng, J., et al. 2000. Stress proteins as biomarkers of oxidative stress: effects of antioxidant supplements. Free Radic. Biol. Med. 28: 1598-1606.
2. Zhang, X., et al. 2005. Expression of HSP 105 and HSP 60 during germ cell apoptosis in the heat-treated testes of adult cynomolgus monkeys *(Macaca fascicularis).* Front. Biosci. 10: 3110-3121.
3. Severi, T., et al. 2006. Hepatitis B virus replication causes oxidative stress in HepAD38 liver cells. Mol. Cell. Biochem. 290: 79-85.
4. Herbst, M., et al. 2007. Small molecule inducers of heat-shock response reduce polyQ-mediated Huntingtin aggregation. A possible therapeutic strategy. Neurodegener. Dis. 4: 254-260.
5. Park, H.S., et al. 2009. Expression of heat shock protein 105 and 70 in malignant melanoma and benign melanocytic nevi. J. Cutan. Pathol. 36: 511-516.
6. Yuan, J.X., et al. 2009. Increased expression of heat shock protein 105 in rat uterus of early pregnancy and its significance in embryo implantation. Reprod. Biol. Endocrinol. 7: 23.
7. Eroglu, B., et al. 2010. Loss of Hsp110 leads to age-dependent Tau hyperphosphorylation and early accumulation of insoluble amyloid β. Mol. Cell. Biol. 30: 4626-4643.
8. Shipp, C., et al. 2011. Associations of HSP90 client proteins in human breast cancer. Anticancer Res. 31: 2095-2101.