SANTA CRUZ BIOTECHNOLOGY, INC.

Apg-1 (N-231): sc-6239

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, which include 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. Apg-1, also known as HSPA4L (heat shock 70 kDa protein 4-like) or Osp94 (osmotic stress protein 94), is an 839 amino acid protein that possesses chaperone activity *in vitro,* where it inhibits aggregation of citrate synthase. A homodimer, Apg-1 subcellularly localizes to cytoplasm and nucleus, and may translocate to nucleus after heat shock.

REFERENCES

1. Schlesinger, M.J., et al. 1982. Heat Shock: from Bacteria to Man. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory.
2. 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.
3. Georgopoulos, C. and Welch, W.J. 1993. Role of the major heat shock proteins as molecular chaperones. Annu. Rev. Cell Biol. 9: 601-634.
4. Todd, M.J., et al. 1994. Dynamics of the chaperonin ATPase cycle: implications for facilitated protein folding. Science 265: 659-666.
5. Yasuda, K., et al. 1995. Cloning and expression of murine high molecular mass heat shock proteins, HSP 105. J. Biol. Chem. 270: 29718-29723.
6. Kaneko, Y., et al. 1997. Cloning of Apg-2 encoding a novel member of heat shock protein family. Gene 189: 19-24.
7. Xue, J.H., et al. 1998. Induction of Apg-1, a member of the HSP 110 family, following transient forebrain ischemia in the rat brain. Biochem. Biophys. Res. Commun. 247: 796-801.
8. Kumagai, J., et al. 2000. Germ cell-specific heat shock protein 105 binds to p53 in a temperature-sensitive manner in rat testis. Eur. J. Biochem. 267: 3073-3078.

SOURCE

Apg-1 (N-231) is a rabbit polyclonal antibody raised against amino acids 231-838 of Apg-1 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.

STORAGE

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

APPLICATIONS

Apg-1 (N-231) is recommended for detection of Apg-1 and, to a lesser extent, Apg-2 and HSP 105 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Apg-1 (N-231) is also recommended for detection of Apg-1 and, to a lesser extent, Apg-2 and HSP 105 in additional species, including equine, canine, bovine and porcine.

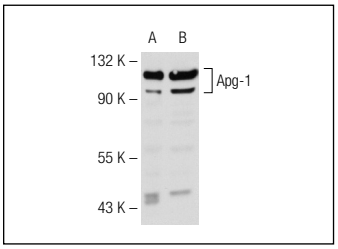
Molecular Weight of Apg-1: 120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or NIH/3T3 whole cell lysate: sc-2210.

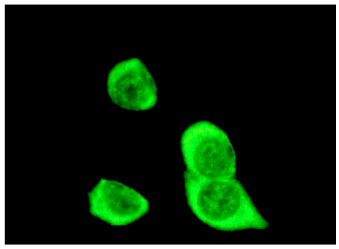
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Apg-1 (N-231): sc-6239. Western blot analysis of Apg-1 expression in HeLa (**A**) and K-562 (**B**) whole cell lysates.



Apg-1 (N-231): sc-6239. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic staining.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **Apg-1 (D-12): sc-133253** or **Apg-1 (B-7): sc-137007**, our highly recommended monoclonal alternatives to Apg-1 (N-231).