

# Apg-1 (N-96): sc-6242

## 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

- Schlesinger, M.J., et al. 1982. Heat Shock: from Bacteria to Man. Cold Spring Harbor, N.Y.: Cold Spring Harbor Laboratory.
- 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.

## SOURCE

Apg-1 (N-96) is a rabbit polyclonal antibody raised against amino acids 96-582 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.

## APPLICATIONS

Apg-1 (N-96) 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), 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).

Apg-1 (N-96) 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: NIH/3T3 whole cell lysate: sc-2210, KNRK whole cell lysate: sc-2214 or HeLa whole cell lysate: sc-2200.

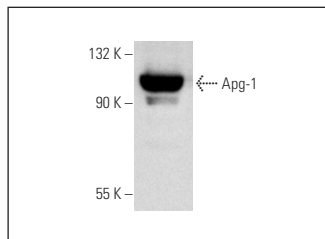
## STORAGE

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

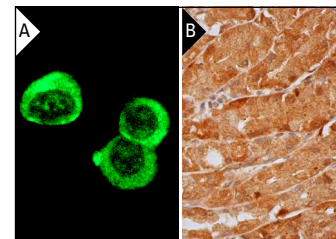
## RESEARCH USE

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

## DATA



Apg-1 (N-96): sc-6242. Western blot analysis of Apg-1 expression in NIH/3T3 whole cell lysate.



Apg-1 (N-96): sc-6242. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic and nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Held T, et al. 2006. Hspa4l-deficient mice display increased incidence of male infertility and hydronephrosis development. Mol. Cell. Biol. 26: 8099-8108.
- Simpson, P.J., et al. 2007. Progressive and inhibitory cell cycle proteins act simultaneously to regulate neurotrophin-mediated proliferation and maturation of neuronal precursors. Cell Cycle 6: 1077-1089.
- Azizi, A.A., et al. 2008. Mitosis-dependent protein expression in neuroblastoma cell line N1E-115. J. Proteome Res. 7: 3412-3422.
- Chen, M., et al. 2008. Effect of 43 degrees treatment on expression of heat shock proteins 105, 70 and 60 in cultured monkey Sertoli cells. Asian J. Androl. 10: 474-485.
- Burnicka-Turek, O., et al. 2009. Inactivation of Insulin-like factor 6 disrupts the progression of spermatogenesis at late meiotic prophase. Endocrinology 150: 4348-4357.
- Kern, F., et al. 2013. Nogo-A couples with Apg-1 through interaction and coordinate expression under hypoxic and oxidative stress. Biochem. J. 544: 217-227.

## PROTOCOLS

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