

## Apg-1 (D-12): sc-133253



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

- Schlesinger, M.J., et al. 1982. Heat Shock: from Bacteria to Man. Cold Spring Harbor, NY: 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.
- Georgopoulos, C., et al. 1993. Role of the major heat shock proteins as molecular chaperones. *Annu. Rev. Cell Biol.* 9: 601-634.
- Todd, M.J., et al. 1994. Dynamics of the chaperonin ATPase cycle: implications for facilitated protein folding. *Science* 265: 659-666.
- Yasuda, K., et al. 1995. Cloning and expression of murine high molecular mass heat shock proteins, HSP 105. *J. Biol. Chem.* 270: 29718-29723.

## SOURCE

Apg-1 (D-12) is a mouse monoclonal antibody raised against amino acids 231-838 of Apg-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Apg-1 (D-12) is available conjugated to agarose (sc-133253 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133253 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133253 PE), fluorescein (sc-133253 FITC), Alexa Fluor® 488 (sc-133253 AF488), Alexa Fluor® 546 (sc-133253 AF546), Alexa Fluor® 594 (sc-133253 AF594) or Alexa Fluor® 647 (sc-133253 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133253 AF680) or Alexa Fluor® 790 (sc-133253 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## 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 (D-12) is recommended for detection of Apg-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 Apg-1 siRNA (h): sc-40650, Apg-1 siRNA (m): sc-40651, Apg-1 shRNA Plasmid (h): sc-40650-SH, Apg-1 shRNA Plasmid (m): sc-40651-SH, Apg-1 shRNA (h) Lentiviral Particles: sc-40650-V and Apg-1 shRNA (m) Lentiviral Particles: sc-40651-V.

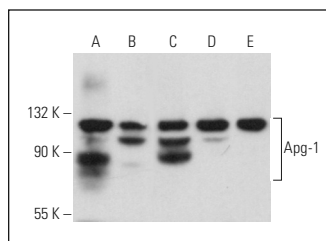
Molecular Weight of Apg-1: 120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or A549 cell lysate: sc-2413.

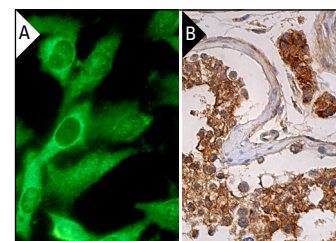
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Apg-1 (D-12): sc-133253. Western blot analysis of Apg-1 expression in HeLa (A), Hep G2 (B), MCF7 (C) and A549 (D) whole cell lysates and human fetal brain tissue extract (E).



Apg-1 (D-12): sc-133253. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous tubules and Leydig cells (B).

## SELECT PRODUCT CITATIONS

- Stahlke, S., et al. 2020. ROS dependent Wnt/β-catenin pathway and its regulation on defined micro-pillars—a combined *in vitro* and *in silico* study. *Cells* 9: 1784.

## RESEARCH USE

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