

Bag-2 (A-12): sc-101216

BACKGROUND

Bag-2 (Bcl-2-associated athanogene-2), also known as Bag family molecular chaperone regulator 2, is a member of the Bag family of proteins and contains the most diverged of the characteristic C-terminal Bag domains. Via their Bag domain, Bag proteins bind with high affinity to the HSP 70/HSC 70 ATPase domain, regulating chaperone activity and apoptosis. Bag-2 is an evolutionarily conserved cytoplasmic protein with putative N-terminal phosphorylation sites and specifically functions as an HSC 70 co-chaperone. Bag-2 is a major component of the HSC 70/CHIP chaperone-dependent ubiquitin ligase complex and acts to disrupt CHIP-mediated ubiquitylation. In this complex, Bag-2 directly interacts with the ATPase domain of HSC 70 as well as the U-box domain of CHIP and inhibits ubiquitylation by interfering with the association between CHIP and its ubiquitin conjugating enzyme.

REFERENCES

1. Takayama, S., et al. 1999. An evolutionarily conserved family of HSP 70/HSC 70 molecular chaperone regulators. *J. Biol. Chem.* 274: 781-786.
2. Ueda, K., et al. 2004. Proteomic identification of Bcl-2-associated athanogene-2 as a novel MAPK-activated protein kinase 2 substrate. *J. Biol. Chem.* 279: 41815-41821.
3. Arndt, V., et al. 2005. Bag-2 acts as an inhibitor of the chaperone-associated ubiquitin ligase CHIP. *Mol. Biol. Cell* 16: 5891-5900.
4. Dai, Q., et al. 2005. Regulation of the cytoplasmic quality control protein degradation pathway by Bag-2. *J. Biol. Chem.* 280: 38673-38681.
5. Götz, R., et al. 2005. Bag-1 is essential for differentiation and survival of hematopoietic and neuronal cells. *Nat. Neurosci.* 8: 1169-1178.
6. Wada, S., et al. 2006. A genomewide analysis of genes for the heat shock protein 70 chaperone system in the ascidian *Ciona intestinalis*. *Cell Stress Chaperones* 11: 23-33.
7. Yi, C., et al. 2006. Affinity purification reveals the association of WD40 protein constitutive photomorphogenic 1 with the hetero-oligomeric TCP-1 chaperonin complex in mammalian cells. *Int. J. Biochem. Cell Biol.* 38: 1076-1083.
8. Arndt, V., et al. 2007. To be, or not to be—molecular chaperones in protein degradation. *Cell. Mol. Life Sci.* 64: 2525-2541.
9. Walker, V.E., et al. 2007. Co-chaperone FKBP38 promotes HERG trafficking. *J. Biol. Chem.* 282: 23509-23516.

CHROMOSOMAL LOCATION

Genetic locus: BAG2 (human) mapping to 6p11.2.

SOURCE

Bag-2 (A-12) is a mouse monoclonal antibody raised against recombinant Bag-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Bag-2 (A-12) is recommended for detection of Bag-2 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Bag-2 siRNA (h): sc-72600, Bag-2 shRNA Plasmid (h): sc-72600-SH and Bag-2 shRNA (h) Lentiviral Particles: sc-72600-V.

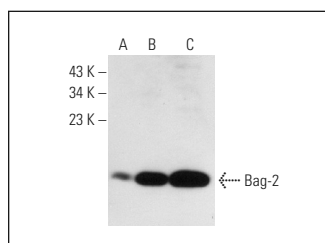
Molecular Weight of Bag-2: 26 kDa.

Positive Controls: Bag-2 (h2): 293 Lysate: sc-128081, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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).

DATA



Bag-2 (A-12): sc-101216. Western blot analysis of Bag-2 expression in non-transfected 293: sc-110760 (A), human Bag-2 transfected 293: sc-128081 (B) and HeLa (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhu, D., et al. 2018. MicroRNA-1180 is associated with growth and apoptosis in prostate cancer via TNF receptor associated factor 1 expression regulation and nuclear factor-κB signaling pathway activation. *Oncol. Lett.* 15: 4775-4780.
2. Verma, M., et al. 2020. Chronic treatment with the complex I inhibitor MPP⁺ depletes endogenous PTEN-induced kinase 1(PINK1) via upregulation of Bcl-2-associated athanogene 6. *J. Biol. Chem.* 295: 7865-7876.

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.