SANTA CRUZ BIOTECHNOLOGY, INC.

Bag-2 (A-7): sc-390262

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The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: BAG2 (human) mapping to 6p11.2; Bag2 (mouse) mapping to 1 B.

SOURCE

Bag-2 (A-7) is a mouse monoclonal antibody raised against amino acids 1-211 representing full length Bag-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Bag-2 (A-7) is recommended for detection of Bag-2 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) 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 siRNA (m): sc-72601, Bag-2 shRNA Plasmid (h): sc-72600-SH, Bag-2 shRNA Plasmid (m): sc-72601-SH, Bag-2 shRNA (h) Lentiviral Particles: sc-72600-V and Bag-2 shRNA (m) Lentiviral Particles: sc-72601-V.

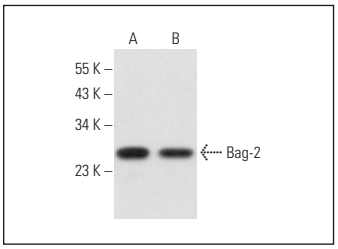
Molecular Weight of Bag-2: 26 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

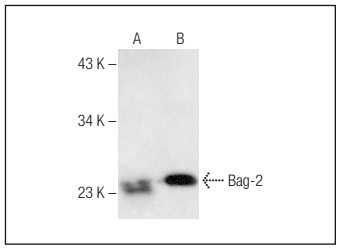
RECOMMENDED SUPPORT REAGENTS

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

DATA



Bag-2 (A-7): sc-390262. Western blot analysis of Bag-2 expression in HeLa (**A**) and K-562 (**B**) whole cell lysates.



Bag-2 (A-7): sc-390262. Western blot analysis of Bag-2 expression in HeLa (**A**) and Jurkat (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Shi, Y., et al. 2021. Aberrant splicing in neuroblastoma generates RNA-fusion transcripts and provides vulnerability to spliceosome inhibitors. Nucleic Acids Res. 49: 2509-2521.

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.