

Bag-1 (3.10G3E2): sc-56003

BACKGROUND

The Bcl-2 family of proteins is characterized by its ability to modulate cell death (apoptosis) under a broad range of physiologic conditions. Bcl-2 and several related proteins function to inhibit apoptosis, while other members of the Bcl-2 family, such as Bax and Bak, enhance cell death under various conditions. For instance, Bcl-x_L represses cell death, while its shorter form, Bcl-x_S, promotes apoptosis. Dimerization of another member of this family, Bad, with Bcl-x_L results in displacement of Bax from Bcl-x_L:Bax complexes and restoration of Bax-mediated apoptosis. A Bcl-2-binding protein, designated Bag-1, lacks significant homology with Bcl-2 or with other Bcl-2-related proteins. Bag-1 appears to function to enhance Bcl-2 protection from cell death, suggesting that Bag-1 represents a new type of anti-cell death gene and that certain routes of apoptosis induction previously ascribed to Bcl-2-independent pathways may instead reflect a requirement for a combination of Bcl-2 and Bag-1.

CHROMOSOMAL LOCATION

Genetic locus: BAG1 (human) mapping to 9p13.3.

SOURCE

Bag-1 (3.10G3E2) is a mouse monoclonal antibody raised against full length Bag-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Bag-1 (3.10G3E2) is available conjugated to agarose (sc-56003 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56003 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56003 PE), fluorescein (sc-56003 FITC), Alexa Fluor® 488 (sc-56003 AF488), Alexa Fluor® 546 (sc-56003 AF546), Alexa Fluor® 594 (sc-56003 AF594) or Alexa Fluor® 647 (sc-56003 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56003 AF680) or Alexa Fluor® 790 (sc-56003 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Bag-1 (3.10G3E2) is recommended for detection of Bag-1 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)], 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 Bag-1 siRNA (h): sc-29211, Bag-1 shRNA Plasmid (h): sc-29211-SH and Bag-1 shRNA (h) Lentiviral Particles: sc-29211-V.

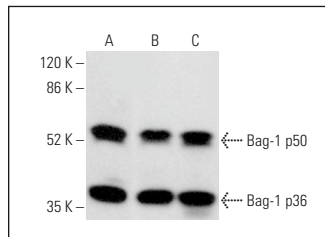
Molecular Weight of Bag-1 four major isoforms: 32/36/46/50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HEK293 whole cell lysate: sc-45136 or Bag-1 (h): 293T Lysate: sc-112723.

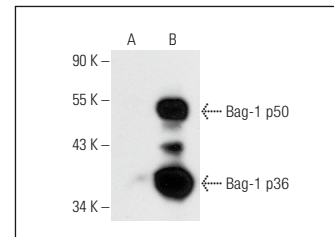
STORAGE

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

DATA



Bag-1 (3.10G3E2): sc-56003. Western blot analysis of Bag-1 expression in HeLa (A), NCI-H460 (B) and HEK293 (C) whole cell lysates.



Bag-1 (3.10G3E2): sc-56003. Western blot analysis of Bag-1 expression in non-transfected: sc-117752 (A) and human Bag-1 transfected: sc-112723 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Townsend, P.A., et al. 2003. Bag-1 prevents stress-induced long-term growth inhibition in breast cancer cells via a chaperone-dependent pathway. *Cancer Res.* 63: 4150-4157.
2. Sharp, A., et al. 2009. Thioflavin S (NSC71948) interferes with Bcl-2-associated athanogene (Bag-1)-mediated protein-protein interactions. *J. Pharmacol. Exp. Ther.* 331: 680-689.
3. Millar, E.K., et al. 2009. BAG-1 predicts patient outcome and tamoxifen responsiveness in ER-positive invasive ductal carcinoma of the breast. *Br. J. Cancer* 100: 123-133.
4. Ingoldsby, H., et al. 2013. Prediction of Oncotype DX and TAILORx risk categories using histopathological and immunohistochemical markers by classification and regression tree (CART) analysis. *Breast* 22: 879-886.
5. Papadakis, E.S., et al. 2016. The Bag-1 inhibitor, Thio-2, reverses an atypical 3D morphology driven by Bag-1L overexpression in a MCF-10A model of ductal carcinoma *in situ*. *Oncogenesis* 5: e215.
6. Papadakis, E., et al. 2016. A combination of trastuzumab and Bag-1 inhibition synergistically targets HER2 positive breast cancer cells. *Oncotarget* 7: 18851-18864.
7. Wang, C., et al. 2019. Quantitating the epigenetic transformation contributing to cholesterol homeostasis using Gaussian process. *Nat. Commun.* 10: 5052.
8. Ding, Y.Y., et al. 2021. Network analysis reveals synergistic genetic dependencies for rational combination therapy in philadelphia chromosome-like acute lymphoblastic leukemia. *Clin. Cancer Res.* 27: 5109-5122.

RESEARCH USE

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