

## Polyclonal Antibody to BAG-3



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## Polyclonal Antibody to BAG-3

**Catalog No :** IMG-5676  
**Formulation :** 50 ul neat serum containing 0.05% sodium azide.  
Sodium azide is highly toxic.  
**Isotype :** Rabbit Ig  
**Clone :** N/A  
**Purification :** Neat Serum  
**Species React :** Human, Mouse  
**Host :** Rabbit

**Application**  
Western blot analysis: 1:1000-1:2000  
IHC (paraffin): 1:1000-1:5000  
IHC (frozen): Users should optimize according to model and immunodetection system used (secondary reagents)  
IP: 1:50-1:200

**Storage**  
Aliquot and store at -20°C. Avoid repeated freeze-thaw cycles.

**Recommended Positive Control:** muscle, PANC-1 pancreatic cell line (ATCC-CRL 1469)

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### Background

The BAG (Bcl-2-associated anthanogene) proteins are a family of chaperone regulators that modulate a number of diverse processes including proliferation, survival, stress responses, tumorigenesis, neuronal differentiation, growth arrest and apoptosis (reviewed Takayama and Reed, 2001; Doong et al, 2002, and Doukhanina et al. 2006). BAG proteins have been characterized as co-chaperones and interact with the chaperone heat shock proteins 70, both constitutive Hsc70 and inducible Hsp70. BAG proteins bind through their BAG domain to the ATPase domain of Hsc70/Hsp70, and can modulate either positively or negatively the functions of the Hsc70/Hsp70 chaperone proteins. The BAG domain has been shown to contribute to the anti-apoptotic activity of BAG- family proteins. The anti-apoptotic activities of BAG-family proteins may be dependent on their interactions with Hsc70/Asp70 and/or binding to Bcl-2. In addition to the conserved BAG domain, BAG-family proteins also contain additional domains which enable them to interact with specific target proteins or to target them to specific locations within cells. The BAG family contains at least six family members, including BAG-1 and its various isoforms [including BAG-1S, BAG-1M (RAP46/HAP46), and BAG-1L, BAG2, BAG3 (CAIR-1; Bis.), BAG4 (SODD), BAG5 and BAG6 (Scythe, BAT3)]. The following amino acids (aa) lengths and molecular weights (kDa) have been described for human BAG proteins (reviewed in Takayama et al, 2001 and Doong et al, 2002): BAG-1 (230 aa., 34 kDa), BAG-1S (219 aa, 29 kDa), BAG-1M (274 aa, 46 kDa), BAG-1L (345 aa, 52 kDa), BAG-2 [212 aa; 24 kDa (Arndt et al. 2005)], BAG-3 (575 aa, 74 kDa), BAG-4 (456 aa; 60 kDa), BAG-5 ([442 aa; 51 kDa (Kalia et al. 2004)], and BAG-6 (1129 aa; 150 kDa). IMG-5668 recognizes both BAG-3; BAG-3 migrates at ~74-80 kDa on SDS-PAGE.

### Antigen

A recombinant protein fragment corresponding to the C-terminal 196 amino acids of human BAG-3.

### Application Notes

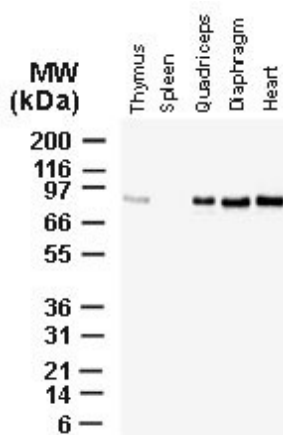
1. Increased BAG-3 expression has been described in pancreatic cancer compared to normal pancreas, Detectible BAG-3 expression has also been described in several pancreatic cancer cell lines. Please see Liao et al (2001) for details.

2. In normal organs, BAG-3 protein has been found to be abundantly expressed in muscle. Please see Homma et al for details.

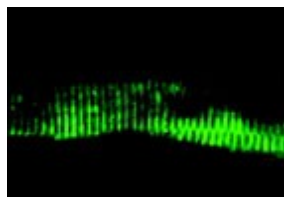
### Genebank Info (Protein)

NP\_004272

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Western blot analysis of BAG-3 using IMG-5676 at 1:2000. Tissue lysates, normalized for total protein (20 ug/lane), were from a 4 week old male mouse. BAG-3 expression was detected at highest levels in skeletal (quadriceps and diaphragm) and smooth (heart) muscle specimens.



Frozen mouse muscle tissue section stained for BAG-3 expression using IMG-5676 at 1:2000. The tissue section was fixed in 3.8% paraformaldehyde prior to staining. BAG-3 localizes with Z-disk proteins.



Immunohistochemistry of formalin-fixed paraffin-embedded human pancreas tissue sections using IMG-5676 at 1:2000. A, normal pancreas. B and C, pancreatic cancer. Hematoxylin-eosin counterstain.

### Reference

1. Takayama S and JC Reed. 2001. Molecular chaperone targeting and regulation by BAG family proteins. *Nature Cell Biology*. 3:E237-241.
2. Doukhanina EV, S Chen, E van der Zalm, A Godzik, J Reed, and MB Dickman. 2006. Identification and functional characterization of the BAG protein family in *Arabidopsis thaliana*. *JBC* 281:18793-18801.
3. H Doong, A Vrillas, EC Kohn. 2002. What's in the BAG?- a functional domain analysis of the BAG-family proteins. *Cancer Letters*. 188:25-32.
4. Liao Q, F Ozawa, H Friess, A Zimmermann, S Takayama, JC Reed, J Kleeff, MW Buchler. 2001. The anti-apoptotic protein BAG-3 is overexpressed in pancreatic cancer and induced by heat stress in pancreatic cancer cell lines. *FEBS Letters*. 503:151-157.
5. Homma S, M Iwasaki, GD Shelton, E Engvall, JC Reed, and S Takayama. 2006. BAAG3 deficiency results in flimant myopathy and early lethality. *American J Pathology* 169:761-773.

### Product Citations

1. **The anti-apoptotic protein BAG-3 is overexpressed in pancreatic cancer and induced by heat stress in pancreatic cancer cell lines.** Liao Q, F Ozawa, H Friess, A Zimmerman, S Takayama, JC Reed, J Kleeff, MW Buchler. *FEBS Letters* 503:151-157 (2001). (WB, human tissues and cell lines: Figs 1, 4, 5, 6) (IHC-paraffin, human pancreas tissue: Fig 2)

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