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Bax Antibody (BH3 Domain Specific)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1302a

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q07812
Other Accession	O02703, Q07814
Reactivity	Human, Mouse, Rat
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	21184
Antigen Region	41-76

Additional Information

Gene ID	581
Other Names	Apoptosis regulator BAX, Bcl-2-like protein 4, Bcl2-L-4, BAX, BCL2L4
Target/Specificity	This Bax antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 41-76 amino acids from human Bax.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Bax Antibody (BH3 Domain Specific) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BAX
Synonyms	BCL2L4
Function	Plays a role in the mitochondrial apoptotic process (PubMed: 10772918, PubMed:11060313, PubMed:16113678, PubMed:16199525,

PubMed:18948948, PubMed:21199865, PubMed:21458670, PubMed:25609812, PubMed:36361894, PubMed:8358790, PubMed:8521816). Under normal conditions, BAX is largely cytosolic via constant retrotranslocation from mitochondria to the cytosol mediated by BCL2L1/Bcl-xL, which avoids accumulation of toxic BAX levels at the mitochondrial outer membrane (MOM) (PubMed:21458670). Under stress conditions, undergoes a conformation change that causes translocation to the mitochondrion membrane, leading to the release of cytochrome c that then triggers apoptosis (PubMed:10772918, PubMed:11060313, PubMed:16113678, PubMed:16199525, PubMed:18948948, PubMed:21199865, PubMed:21458670, PubMed:25609812, PubMed:8358790, PubMed:8521816). Promotes activation of CASP3, and thereby apoptosis (PubMed:10772918, PubMed:11060313, PubMed:16113678, PubMed:16199525, PubMed:18948948, PubMed:21199865, PubMed:21458670, PubMed:25609812, PubMed:8358790, PubMed:8521816).

Cellular Location

[Isoform Alpha]: Mitochondrion outer membrane; Single-pass membrane protein. Cytoplasm. Nucleus Note=Colocalizes with 14-3-3 proteins in the cytoplasm. Under stress conditions, undergoes a conformation change that causes release from JNK-phosphorylated 14-3-3 proteins and translocation to the mitochondrion membrane. Upon Sendai virus infection, recruited to the mitochondrion through interaction with IRF3 (PubMed:25609812) [Isoform Gamma]: Cytoplasm.

Tissue Location

Expressed in a wide variety of tissues. Isoform Psi is found in glial tumors. Isoform Alpha is expressed in spleen, breast, ovary, testis, colon and brain, and at low levels in skin and lung Isoform Sigma is expressed in spleen, breast, ovary, testis, lung, colon, brain and at low levels in skin. Isoform Alpha and isoform Sigma are expressed in pro-myelocytic leukemia, histiocytic lymphoma, Burkitt's lymphoma, T-cell lymphoma, lymphoblastic leukemia, breast adenocarcinoma, ovary adenocarcinoma, prostate carcinoma, prostate adenocarcinoma, lung carcinoma, epidermoid carcinoma, small cell lung carcinoma and colon adenocarcinoma cell lines

Background

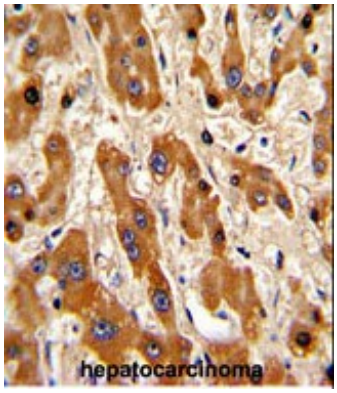
Bax belongs to the BCL2 protein family. BCL2 family members form hetero- or homodimers and act as anti- or pro-apoptotic regulators that are involved in a wide variety of cellular activities. Bax forms a heterodimer with BCL2, and functions as an apoptotic activator. This protein is reported to interact with, and increase the opening of, the mitochondrial voltage-dependent anion channel (VDAC), which leads to the loss in membrane potential and the release of cytochrome c. The expression of the Bax gene is regulated by the tumor suppressor P53 and has been shown to be involved in P53-mediated apoptosis.

References

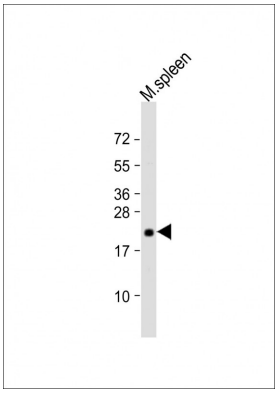
Liu, F.T., et al., Biochem. Biophys. Res. Commun. 310(3):956-962 (2003). Roucou, X., et al., J. Biol. Chem. 278(42):40877-40881 (2003). Cao, X., et al., Blood 102(7):2605-2614 (2003). McJilton, M.A., et al., Oncogene 22(39):7958-7968 (2003). Bidere, N., et al., J. Biol. Chem. 278(33):31401-31411 (2003).

Images

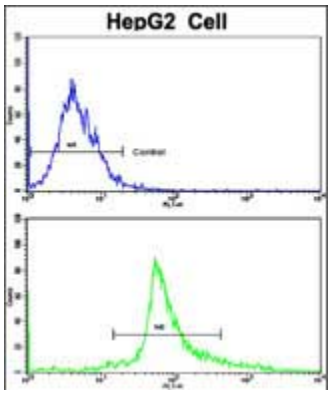
Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with Bax Antibody (BH3 Domain Specific), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for



immunohistochemistry; clinical relevance has not been evaluated.



Anti-Bax Antibody (BH3) at 1:2000 dilution + mouse spleen lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 21 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Flow cytometric analysis of HepG2 cells using Bax Antibody (BH3 Domain Specific)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- A Marine Terpenoid, Heteronemin, Induces Both the Apoptosis and Ferroptosis of Hepatocellular Carcinoma Cells and Involves the ROS and MAPK Pathways
- Isochamaejasmin induces toxic effects on Helicoverpa zea via DNA damage and mitochondria-associated apoptosis
- Probing BAK and BAX Activation and Pore Assembly with Cytochrome c Release, Limited Proteolysis, and Oxidant-Induced Linkage.
- Small-molecule allosteric inhibitors of BAX.
- Oridonin phosphate-induced autophagy effectively enhances cell apoptosis of human breast cancer cells.
- Oridonin enhances the radiosensitivity of lung cancer cells by upregulating Bax and downregulating Bcl-2.
- Mitochondrial Dysfunctions Regulated Radioresistance through Mitochondria-to-Nucleus Retrograde Signaling Pathway of NF-κB/PI3K/AKT2/mTOR.
- Effects of secreted frizzled-related protein 1 on proliferation, migration, invasion, and apoptosis of colorectal cancer cells.
- Photodynamic Therapy Using Indolines-Fused-Triazoles Induces Mitochondrial Apoptosis in Human Non-Melanoma BCC Cells.
- Edaravone ameliorates compression-induced damage in rat nucleus pulposus cells.
- Hypoxic postconditioning attenuates apoptosis via inactivation of adenosine A2a receptor through NDRG3-Raf-ERK pathway.
- Early septic insult in neonatal pigs increases serum and urinary soluble Fas ligand and decreases kidney function without inducing significant renal apoptosis.
- HMGB1 knockdown effectively inhibits the progression of rectal cancer by suppressing HMGB1 expression and promoting apoptosis of rectal cancer cells.

- BH3-triggered structural reorganization drives the activation of proapoptotic BAX.
- Ceramide 1-phosphate inhibits serine palmitoyltransferase and blocks apoptosis in alveolar macrophages.
- Klotho overexpression suppresses apoptosis by regulating the Hsp70/Akt/Bad pathway in H9c2(2-1) cells
- The conformational stability of pro-apoptotic BAX is dictated by discrete residues of the protein core

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.