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Rabbit Anti-Bcl-2 (Ser70) Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP52218

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	P49950
Reactivity	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	26622
Physical State	Liquid
Immunogen	KLH conjugated Synthesised phosphopeptide derived from rat Bcl-2 around the phosphorylation site of Ser70
Epitope Specificity	RT(p-S)PL
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Mitochondrion outer membrane; Single-pass membrane protein. Nucleus membrane; Single-pass membrane protein. Endoplasmic reticulum membrane; Single-pass membrane protein.
SIMILARITY	Belongs to the Bcl-2 family.
SUBUNIT	Forms homodimers, and heterodimers with BAX, BAD, BAK and Bcl-X(L). Heterodimerization with BAX requires intact BH1 and BH2 motifs, and is necessary for anti-apoptotic activity. Interacts with EI24 (By similarity). Also interacts with APAF1, BBC3, BCL2L1, BNIPL, MRPL41 and TP53BP2. Binding to FKBP8 seems to target BCL2 to the mitochondria and probably interferes with the binding of BCL2 to its targets. Interacts with BAG1 in an ATP-dependent manner. Interacts with RAF1 (the 'Ser-338' and 'Ser-339' phosphorylated form). Interacts (via the BH4 domain) with EGLN3; the interaction prevents the formation of the BAX-BCL2 complex and inhibits the anti-apoptotic activity of BCL2. Interacts with G0S2; this interaction also prevents the formation of the anti-apoptotic BAX-BCL2 complex.
Post-translational modifications	Phosphorylation/dephosphorylation on Ser-70 regulates anti-apoptotic activity. Growth factor-stimulated phosphorylation on Ser-70 by PKC is required for the anti-apoptosis activity and occurs during the G2/M phase of the cell cycle. In the absence of growth factors, BCL2 appears to be phosphorylated by other protein kinases such as ERKs and stress-activated kinases. Phosphorylated by MAPK8/JNK1 at Thr-69, Ser-70 and Ser-87, wich stimulates starvation-induced autophagy. Dephosphorylated by protein phosphatase 2A (PP2A). Proteolytically cleaved by caspases during apoptosis. The cleaved protein, lacking the BH4 motif, has pro-apoptotic activity, causes the release of cytochrome c into the cytosol promoting further caspase activity. Monoubiquitinated by PARK2, leading to increase its stability.
DISEASE	Note=A chromosomal aberration involving BCL2 has been found in chronic lymphatic leukemia. Translocation t(14;18)(q32;q21) with immunoglobulin gene regions. BCL2 mutations found in non-Hodgkin lymphomas carrying the chromosomal translocation could be attributed to the Ig somatic

	hypermutation mechanism resulting in nucleotide transitions.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The Bcl-2 gene was isolated at the chromosomal breakpoint of t(14;18)-bearing follicular B cell lymphomas(1,2).Bcl-2 blocks cell death following a variety of stimuli and confers a death-sparing effect to certain hematopoietic cell lines following growth factor withdrawal (3,5).Bcl-2 appears to function in several subcellular locations yet lacks any known motifs that would confer insight into its mechanism of action (6,7).A more recently identified protein,designated Bax p21(i.e., Bcl-associated X protein),has extensive amino acid homology with Bcl-2 and both homodimerizes and forms heterodimers with Bcl-2(8). Overexpression of Bax accelerates apoptotic death induced by cytokine deprivation in an IL-3 dependent cell line and Bax also counters the death repressor activty of Bcl-2(8).

Additional Information

Gene ID	24224
Other Names	Bcl-2; Apoptosis regulator Bcl-2; Bcl2
Target/Specificity	Expressed in a variety of tissues.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug/test,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	Bcl2
Synonyms	Bcl-2
Function	Suppresses apoptosis in a variety of cell systems including factor-dependent lymphohematopoietic and neural cells. Regulates cell death by controlling the mitochondrial membrane permeability. Appears to function in a feedback loop system with caspases. Inhibits caspase activity either by preventing the release of cytochrome c from the mitochondria and/or by binding to the apoptosis-activating factor (APAF-1). Also acts as an inhibitor of autophagy: interacts with BECN1 and AMBRA1 during non-starvation conditions and inhibits their autophagy function. May attenuate inflammation by impairing NLRP1- inflammasome activation, hence CASP1 activation and IL1B release.
Cellular Location	Mitochondrion outer membrane {ECO:0000250|UniProtKB:P10415}; Single-pass membrane protein. Nucleus membrane {ECO:0000250|UniProtKB:P10415}; Single- pass membrane protein. Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P10415}; Single-pass membrane protein. Cytoplasm {ECO:0000250|UniProtKB:P10417}
Tissue Location	Expressed in a variety of tissues, with highest levels in reproductive tissues. In the adult brain, expression is localized in mitral cells of the olfactory bulb,

granule and pyramidal neurons of hippocampus, pontine nuclei, cerebellar granule neurons, and in ependymal cells. In prenatal brain, expression is higher and localized in the neuroepithelium and in the cortical plate

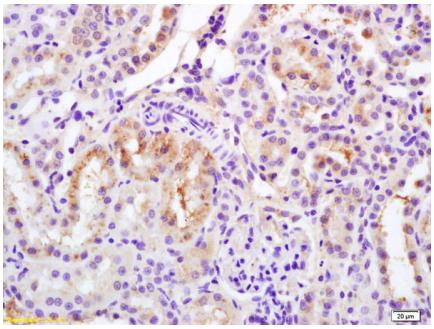
Background

Suppresses apoptosis in a variety of cell systems including factor-dependent lymphohematopoietic and neural cells. Regulates cell death by controlling the mitochondrial membrane permeability. Appears to function in a feedback loop system with caspases. Inhibits caspase activity either by preventing the release of cytochrome c from the mitochondria and/or by binding to the apoptosis-activating factor (APAF-1).

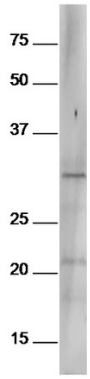
References

Sato T.,et al.Gene 140:291-292(1994).
Tilly J.L.,et al.Endocrinology 136:232-241(1995).
Castren E.,et al.Neuroscience 61:165-177(1994).
Eliseev R.A.,et al.J. Biol. Chem. 284:9692-9699(2009).

Images



Formalin-fixed and paraffin embedded rat kidney labeled with Rabbit Anti Phospho-Bcl-2(Ser70) Polyclonal Antibody, Unconjugated (AP52218) at 1:200 followed by conjugation to the secondary antibody and DAB staining



Mouse spleen lysates probed with Anti-Bcl-2 (Ser70) Polyclonal Antibody, Unconjugated (AP52218) at 1:300 in 4˚C. Followed by conjugation to secondary antibody at 1:5000 90min in 37˚C

Citations

- Cytotoxic Activity of Constituent, Inhibits Growth and Migration of HK1 Cells by Inducing Caspase-Dependent Apoptosis and G2/M-Phase Arrest