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Rabbit Anti-Smac/DIABLO Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP52328

Product Information

Application	IHC-P, E
Primary Accession	Q9NR28
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	27131
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Smac
Epitope Specificity	131-239/239
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. Note=Released into the cytosol when cells undergo apoptosis.
SUBUNIT	Homodimer. Interacts with NGFRAP1/BEX3 (By similarity). Interacts with BIRC2/c-IAP1, BIRC3/c-IAP2, XIAP/BIRC4, BIRC6/bruce and BIRC7/livin. Interacts with the monomeric and dimeric form of BIRC5/survivin.
Post-translational modifications	Ubiquitinated by BIRC7/livin.
DISEASE	Deafness, autosomal dominant, 64 (DFNA64) [MIM:614152]: A form of non-syndromic sensorineural hearing loss. Sensorineural deafness results from damage to the neural receptors of the inner ear, the nerve pathways to the brain, or the area of the brain that receives sound information. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	bs-1298P is one synthetic peptide derived from human Smac. This gene encodes an inhibitor of apoptosis protein (IAP)-binding protein. The encoded mitochondrial protein enters the cytosol when cells undergo apoptosis, and it moderates the caspase inhibition of IAPs. Multiple polyadenylation sites have been found for this gene. Several alternatively spliced transcript variants that encode distinct isoforms have been described for this gene but the validity of some transcripts, and their predicted ORFs, has not been determined conclusively. The inhibitor of apoptosis (IAP) proteins regulate programmed cell death by inhibiting members of the caspase family of enzymes. A novel mammalian protein that binds to IAPs and neutralizes their inhibitory effect on caspases has been designated Smac/DIABLO. This is a mitochondrial protein that is released along with cytochrome c during apoptosis and activates the cytochrome c/Apaf-1/caspase-9 pathway. Analysis of the structural basis of Smac/DIABLO reveals that the N-terminal amino acids are required for binding of Smac/DIABLO to IAPs and activation of caspases. Smac/DIABLO is expressed in a variety of human and mouse tissues.

Additional Information

Gene ID	56616
Other Names	SMAC; DFNA64; Diablo homolog, mitochondrial; Direct IAP-binding protein with low pI; Second mitochondria-derived activator of caspase; DIABLO
Target/Specificity	Ubiquitously expressed with highest expression in testis. Expression is also high in heart, liver, kidney, spleen, prostate and ovary. Low in brain, lung, thymus and peripheral blood leukocytes. Isoform 3 is ubiquitously expressed.
Dilution	IHC-P=1:100-500,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	DIABLO (HGNC:21528)
Function	Promotes apoptosis by activating caspases in the cytochrome c/Apaf-1/caspase-9 pathway. Acts by opposing the inhibitory activity of inhibitor of apoptosis proteins (IAP). Inhibits the activity of BIRC6/BRUCE by inhibiting its binding to caspases (PubMed:15200957, PubMed:36758104, PubMed:36758105, PubMed:36758106).
Cellular Location	Mitochondrion. Cytoplasm, cytosol Note=Released into the cytosol in a PARL-dependent manner when cells undergo apoptosis.
Tissue Location	Ubiquitously expressed with highest expression in testis. Expression is also high in heart, liver, kidney, spleen, prostate and ovary. Low in brain, lung, thymus and peripheral blood leukocytes. Isoform 3 is ubiquitously expressed

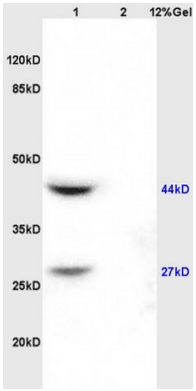
Background

Promotes apoptosis by activating caspases in the cytochrome c/Apaf-1/caspase-9 pathway. Acts by opposing the inhibitory activity of inhibitor of apoptosis proteins (IAP). Inhibits the activity of BIRC6/bruce by inhibiting its binding to caspases. Isoform 3 attenuates the stability and apoptosis- inhibiting activity of XIAP/BIRC4 by promoting XIAP/BIRC4 ubiquitination and degradation through the ubiquitin-proteasome pathway. Isoform 3 also disrupts XIAP/BIRC4 interacting with processed caspase-9 and promotes caspase-3 activation. Isoform 1 is defective in the capacity to down-regulate the XIAP/BIRC4 abundance.

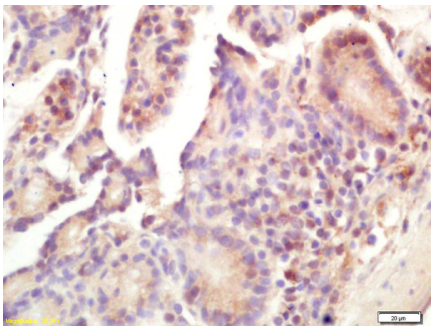
References

Du C.,et al.Cell 102:33-42(2000).
Srinivasula S.M.,et al.J. Biol. Chem. 275:36152-36157(2000).
Fu J.,et al.J. Biol. Chem. 278:52660-52672(2003).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Scherer S.E.,et al.Nature 440:346-351(2006).

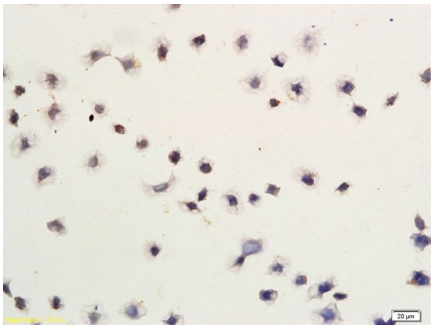
Images



Lane 1: rat kidney lysates Lane 2: rat brain lysates probed with Anti AVPR2 Polyclonal Antibody, Unconjugated at 1:3000 90min in 37˚C. Predicted band 40kD. Observed band size: 40kD



Formalin-fixed and paraffin embedded mouse intestine labeled with Rabbit Anti Smac/DIABLO Polyclonal Antibody, Unconjugated (AP52328) at 1:200 followed by conjugation to the secondary antibody and DAB staining



Gastric Cancer Cells labeled with Anti-Smac/DIABLO Polyclonal Antibody, Unconjugated (AP52328) followed by conjugation to the secondary antibody