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ZIPK Antibody

Catalog # ASC10047

Product Information

Application	WB, IF, ICC, E
Primary Accession	O43293
Other Accession	BAA81746, 5162884
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	52536
Conjugate	Unconjugated
Application Notes	ZIPK antibody can be used for detection of DNase II expression by Western blot at 1 g/mL. An approximate 40 kDa band can be detected, which represents the pro-enzyme of DNase II. Antibody can also be used for immunocytochemistry starting at 10 g/mL. For immunofluorescence start at 10 g/mL.

Additional Information

Gene ID	1613
Other Names	ZIPK Antibody: ZIP, ZIPK, Death-associated protein kinase 3, DAP-like kinase, DAP kinase 3, death-associated protein kinase 3
Target/Specificity	DAPK3;
Reconstitution & Storage	ZIPK antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	ZIPK Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DAPK3
Synonyms	ZIPK
Function	Serine/threonine kinase which is involved in the regulation of apoptosis, autophagy, transcription, translation and actin cytoskeleton reorganization. Involved in the regulation of smooth muscle contraction. Regulates both type I (caspase-dependent) apoptotic and type II (caspase-independent) autophagic cell deaths signal, depending on the cellular setting. Involved in regulation of starvation-induced autophagy. Regulates myosin

	phosphorylation in both smooth muscle and non-muscle cells. In smooth muscle, regulates myosin either directly by phosphorylating MYL12B and MYL9 or through inhibition of smooth muscle myosin phosphatase (SMPP1M) via phosphorylation of PPP1R12A; the inhibition of SMPP1M functions to enhance muscle responsiveness to Ca(2+) and promote a contractile state. Phosphorylates MYL12B in non-muscle cells leading to reorganization of actin cytoskeleton. Isoform 2 can phosphorylate myosin, PPP1R12A and MYL12B. Overexpression leads to condensation of actin stress fibers into thick bundles. Involved in actin filament focal adhesion dynamics. The function in both reorganization of actin cytoskeleton and focal adhesion dissolution is modulated by RhoD. Positively regulates canonical Wnt/beta-catenin signaling through interaction with NLK and TCF7L2. Phosphorylates RPL13A on 'Ser-77' upon interferon-gamma activation which is causing RPL13A release from the ribosome, RPL13A association with the GAIT complex and its subsequent involvement in transcript-selective translation inhibition. Enhances transcription from AR-responsive promoters in a hormone- and kinase-dependent manner. Involved in regulation of cell cycle progression and cell proliferation. May be a tumor suppressor.
Cellular Location	Nucleus. Nucleus, PML body {ECO:0000250|UniProtKB:O54784}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000250|UniProtKB:O54784}. Chromosome, centromere. Cytoplasm. Cytoplasm, cytoskeleton, spindle. Midbody Note=Predominantly localizes to the cytoplasm but can shuttle between the nucleus and cytoplasm; cytoplasmic localization is promoted by phosphorylation at Thr-299 and involves Rho/Rock signaling [Isoform 2]: Nucleus. Cytoplasm
Tissue Location	Widely expressed. Isoform 1 and isoform 2 are expressed in the bladder smooth muscle.

Background

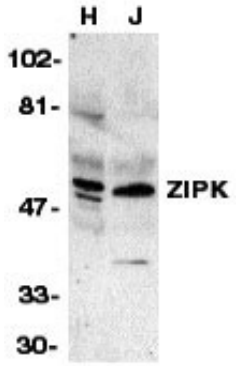
ZIPK Antibody: Apoptosis is mediated by death domain containing adapter molecules and a caspase family of proteases. Certain serine/threonine protein kinases, such as ASK-1 and RIP, are mediators of apoptosis. A novel serine/threonine kinase that mediates apoptosis was recently identified and designated ZIP kinase. ZIP kinase contains an N-terminal kinase domain and a C-terminal leucine zipper structure and binds to ATF4 that is a member of ATF/CREB family. ZIP kinase has high sequence homology to DAP kinase (death-associated protein kinase), which is a mediator of apoptosis induced by gamma interferon. Overexpression of ZIP kinase induces apoptosis. ZIP and DAP kinases represent a novel kinase family, which mediates apoptosis through their catalytic activities. The messenger RNA was ubiquitously expressed in various tissues.

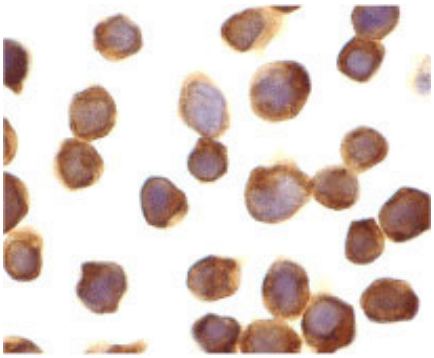
References

Kawai T, Matsumoto M, Takeda K, Sanjo H, Akira S. ZIP kinase, a novel serine/threonine kinase which mediates apoptosis. Mol Cell Biol 1998;18:1642-51 (RD1299)

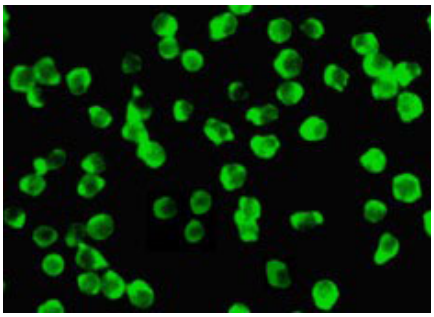
Images

Western blot analysis of ZIP kinase in HeLa (H) and Jurkat (J) whole cell lysates with ZIP kinase antibody at 1 µg/mL.





Immunocytochemistry of ZIP kinase in Jurkat cells with ZIP kinase antibody at 10 µg/mL.



Immunofluorescence of ZIPK in Jurkat cells with ZIPK antibody at 10 µg/mL.

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