

DAB2IP Rabbit pAb

Catalog # AP98266

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q5VWQ8
Other Accession	Q5VWQ8
Predicted	Rat, Pig, Human, Mouse, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	131625
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DAB2IP
Epitope Specificity	901-1069/1069
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 C2 domain.Contains 1 PH domain.Contains 1 Ras-GAP domain.
SUBUNIT	Interacts with MAP3K5, preferentially with its 'Ser-966' dephosphorylated form. On plasma membrane, exists in an inactive form complexed with TNFR1. In response to TNF, dissociates from TNFR1 complex, translocates to cytoplasm and forms part of an intracellular signaling complex comprising TRADD, RALBP1, TRAF2 and MAP3K5. Binding to MAP3K5 is induced by TNF. Interacts with DAB1 and DAB2 (By similarity). Part of a cytoplasmic complex made of HIPK1, DAB2IP and MAP3K5 in response to TNF. This complex formation promotes MAP3K5-JNK activation and subsequent apoptosis.
DISEASE	Note=A chromosomal aberration involving DAB2IP is found in a patient with acute myeloid leukemia (AML). Translocation t(9;11)(q34;q23) with MLL. May give rise to a MLL-DAB2IP fusion protein lacking the PH domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	DAB2IP is a Ras GTPase-activating protein (GAP) that acts as a tumor suppressor gene and is inactivated by methylation in prostate and breast cancers. It also interacts with MAP3K5 to disrupt the association of MAP3K5 with the inhibitory 14-3-3 complex.

Additional Information

Gene ID	153090
Other Names	AF9Q34; AIP-1; AIP1; DIP1/2; 2310011D08Rik; mKIAA1743; DAB2P_HUMAN; DAB2IP; DAB2 interaction protein; DAB2-interacting protein; ASK-interacting protein 1 (AIP-1); DOC-2/DAB-2 interactive protein; KIAA1743; DAB2P_MOUSE; ASK-interacting protein 1; DAB2P_RAT; DOC-2/DAB2 interactive protein; DAB2 interacting protein; nGAP-like protein; ASK-interacting protein; ASK1-interacting protein 1

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	DAB2IP (HGNC:17294)
Synonyms	AF9Q34, AIP1, KIAA1743
Function	<p>Functions as a scaffold protein implicated in the regulation of a large spectrum of both general and specialized signaling pathways. Involved in several processes such as innate immune response, inflammation and cell growth inhibition, apoptosis, cell survival, angiogenesis, cell migration and maturation. Also plays a role in cell cycle checkpoint control; reduces G1 phase cyclin levels resulting in G0/G1 cell cycle arrest. Mediates signal transduction by receptor- mediated inflammatory signals, such as the tumor necrosis factor (TNF), interferon (IFN) or lipopolysaccharide (LPS). Modulates the balance between phosphatidylinositol 3-kinase (PI3K)-AKT-mediated cell survival and apoptosis stimulated kinase (MAP3K5)-JNK signaling pathways; sequesters both AKT1 and MAP3K5 and counterbalances the activity of each kinase by modulating their phosphorylation status in response to pro-inflammatory stimuli. Acts as a regulator of the endoplasmic reticulum (ER) unfolded protein response (UPR) pathway; specifically involved in transduction of the ER stress-response to the JNK cascade through ERN1. Mediates TNF-induced apoptosis activation by facilitating dissociation of inhibitor 14-3-3 from MAP3K5; recruits the PP2A phosphatase complex which dephosphorylates MAP3K5 on 'Ser-966', leading to the dissociation of 13-3-3 proteins and activation of the MAP3K5-JNK signaling pathway in endothelial cells. Also mediates TNF/TRAF2-induced MAP3K5-JNK activation, while it inhibits CHUK-NF-kappa-B signaling. Acts a negative regulator in the IFN-gamma-mediated JAK-STAT signaling cascade by inhibiting smooth muscle cell (VSMCs) proliferation and intimal expansion, and thus, prevents graft arteriosclerosis (GA). Acts as a GTPase-activating protein (GAP) for the ADP ribosylation factor 6 (ARF6), Ras and RAB40C (PubMed:29156729). Promotes hydrolysis of the ARF6-bound GTP and thus, negatively regulates phosphatidylinositol 4,5- biphosphate (PIP2)-dependent TLR4-TIRAP-MyD88 and NF-kappa-B signaling pathways in endothelial cells in response to lipopolysaccharides (LPS). Binds specifically to phosphatidylinositol 4-phosphate (PtdIns4P) and phosphatidylinositol 3-phosphate (PtdIns3P). In response to vascular endothelial growth factor (VEGFA), acts as a negative regulator of the VEGFR2-PI3K-mediated angiogenic signaling pathway by inhibiting endothelial cell migration and tube formation. In the developing brain, promotes both the transition from the multipolar to the bipolar stage and the radial migration of cortical neurons from the ventricular zone toward the superficial layer of the neocortex in a glial-dependent locomotion process. Probable downstream effector of the Reelin signaling pathway; promotes Purkinje cell (PC) dendrites development and formation of cerebellar synapses. Also functions as a tumor suppressor protein in prostate cancer progression; prevents cell proliferation and epithelial-to-mesenchymal transition (EMT) through activation of the glycogen synthase kinase-3 beta (GSK3B)-induced beta- catenin and inhibition of PI3K-AKT and Ras-MAPK survival downstream signaling cascades, respectively.</p>
Cellular Location	Cytoplasm. Cell membrane; Peripheral membrane protein. Membrane. Cell

projection, dendrite. Note=Localized in soma and dendrites of Purkinje cells as well as in scattered cell bodies in the molecular layer of the cerebellum (By similarity). Colocalizes with TIRAP at the plasma membrane. Colocalizes with ARF6 at the plasma membrane and endocytic vesicles. Translocates from the plasma membrane to the cytoplasm in response to TNF. Phosphatidylinositol 4-phosphate (PtdIns4P) binding is essential for plasma membrane localization Localized in the cytoplasmic space in close proximity to lipid droplets (PubMed:29156729). {ECO:0000250, ECO:0000269 | PubMed:29156729}

Tissue Location

Expressed in endothelial and vascular smooth muscle cells (VSMCs).
Expressed in prostate epithelial but poorly in prostate cancer cells. Poorly expressed in medulloblastoma cells compared to cerebellar precursor proliferating progenitor cells (at protein level) Low expression in prostate. Down-regulated in prostate cancer

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