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phospho-DAB2 (Ser24) Rabbit pAb

Catalog # AP100117

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P98082
Other Accession	P98082
Reactivity	Human, Mouse
Predicted	Rat, Pig, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	82448
Physical State	Liquid
Immunogen	KLH conjugated synthesised phosphopeptide derived from human DAB2 around the phosphorylation site of Ser24
Epitope Specificity	AP(p-S)KK
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 PID domain.
SUBUNIT	Interacts (via NPXY motif) with DAB2 (via PID domain). Can interact (via PID domain) with LDLR, APP, APLP1 and APLP2, and weakly with INPP5D (via NPXY motifs); the interaction is impaired by tyrosine phosphorylation of the respective NPXY motifs. Can weakly interact (via PID domain) with LRP1 (via NPXY motif); the interaction is enhanced by tyrosine phosphorylation of the NPXY motif. Interacts with LRP2 (via NPXY motif); the interaction is not affected by tyrosine phosphorylation of the NPXY motif. Interacts with clathrin; in vitro can assemble clathrin triskelia into polyhedral coats. Interacts with AP2A2, ITGB1, ITGB3, ITGB5, PIAS2, DAB2IP, NOSTRIN, FCHO1, DVL3, EPS15, ITSN1 and EPS15L1. Interacts with SH3KBP1 (via SH3 domains). Interacts with GRB2; competes with SOS1 for binding to GRB2 and the interaction is enhanced by EGF and NT-3 stimulation. Interacts with MAP3K7; the interaction is induced by TGF-beta stimulation and may mediate TGF-beta stimulated JNK activation. Interacts with AXIN1 and PPP1CA; the interactions are mutually exclusive. Interacts with the globular tail of MYO6. Interacts (via DPF motifs) with FCHO2; the interaction is direct and required for DAB2-mediated LDLR endocytosis. Interacts with LRP6; the interaction involves LRP6 phosphorylation by CK2 and sequesters LRP6 towards clathrin-mediated endocytosis. Associates with the TGF-beta receptor complex (Probable). Interacts with SMAD2 and SMAD3; the interactions are enhanced upon TGF-beta stimulation. Interacts with GRB2; the interaction is enhanced by EGF and NT-3 stimulation. Interacts with SRC; the interaction is enhanced by EGF stimulation.
Post-translational modifications	Phosphorylated. Phosphorylation during mitosis is leading to membrane displacement (By similarity).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a mitogen-responsive phosphoprotein. It is expressed in normal ovarian epithelial cells, but is down-regulated or absent from ovarian

carcinoma cell lines, suggesting its role as a tumor suppressor. This protein binds to the SH3 domains of GRB2, an adaptor protein that couples tyrosine kinase receptors to SOS (a guanine nucleotide exchange factor for Ras), via its C-terminal proline-rich sequences, and may thus modulate growth factor/Ras pathways by competing with SOS for binding to GRB2. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Oct 2011].

Additional Information

Gene ID	1601
Other Names	DOC-2; DOC2; DAB2_HUMAN; DAB2; Adaptor molecule disabled-2; Differentially expressed in ovarian carcinoma 2 (DOC-2); Differentially-expressed protein 2; DAB adaptor protein 2; disabled (Drosophila) homolog 2 (mitogen-responsive phosphoprotein); disabled homolog 2, mitogen-responsive phosphoprotein (Drosophila); Dab, mitogen-responsive phosphoprotein, homolog 2 (Drosophila); DAB2, clathrin adaptor protein; DAB2 (phospho-S24); p-DAB2; phospho-DAB2; DAB2 (phospho-Ser24)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=2ug/Test
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	DAB2
Synonyms	DOC2
Function	Adapter protein that functions as a clathrin-associated sorting protein (CLASP) required for clathrin-mediated endocytosis of selected cargo proteins. Can bind and assemble clathrin, and binds simultaneously to phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P2) and cargos containing non-phosphorylated NPXY internalization motifs, such as the LDL receptor, to recruit them to clathrin-coated pits. Can function in clathrin-mediated endocytosis independently of the AP-2 complex. Involved in endocytosis of integrin beta-1; this function seems to redundant with the AP-2 complex and seems to require DAB2 binding to endocytosis accessory EH domain-containing proteins such as EPS15, EPS15L1 and ITSN1. Involved in endocytosis of cystic fibrosis transmembrane conductance regulator/CFTR. Involved in endocytosis of megalin/LRP2 lipoprotein receptor during embryonal development. Required for recycling of the TGF-beta receptor. Involved in CFTR trafficking to the late endosome. Involved in several receptor-mediated signaling pathways. Involved in TGF-beta receptor signaling and facilitates phosphorylation of the signal transducer SMAD2. Mediates TFG-beta-stimulated JNK activation. May inhibit the canoniocal Wnt/beta-catenin signaling pathway by stabilizing the beta-catenin destruction complex through a competing association with axin preventing its dephosphorylation through protein phosphatase 1 (PP1). Sequesters LRP6 towards clathrin-mediated endocytosis, leading to inhibition of Wnt/beta-catenin signaling. May activate non-canonical Wnt signaling. In cell surface growth factor/Ras signaling pathways proposed to inhibit ERK

activation by interrupting the binding of GRB2 to SOS1 and to inhibit SRC by preventing its activating phosphorylation at 'Tyr-419'. Proposed to be involved in modulation of androgen receptor (AR) signaling mediated by SRC activation; seems to compete with AR for interaction with SRC. Plays a role in the CSF-1 signal transduction pathway. Plays a role in cellular differentiation. Involved in cell positioning and formation of visceral endoderm (VE) during embryogenesis and proposed to be required in the VE to respond to Nodal signaling coming from the epiblast. Required for the epithelial to mesenchymal transition, a process necessary for proper embryonic development. May be involved in myeloid cell differentiation and can induce macrophage adhesion and spreading. May act as a tumor suppressor.

Cellular Location

Cytoplasm. Cytoplasmic vesicle, clathrin-coated vesicle membrane. Membrane, clathrin-coated pit. Note=Colocalizes with large insert-containing isoforms of MYO6 at clathrin-coated pits/vesicles. During mitosis is progressively displaced from the membrane and translocated to the cytoplasm

Tissue Location

Expressed in deep invaginations, inclusion cysts and the surface epithelial cells of the ovary. Also expressed in breast epithelial cells, spleen, thymus, prostate, testis, macrophages, fibroblasts, lung epithelial cells, placenta, brain stem, heart and small intestine. Expressed in kidney proximal tubular epithelial cells (at protein level).

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