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[Marker Primary Antibody]

Rabbit Anti-Ack1/FITC Conjugated antibody

Catalog Number: SL1227R-FITC

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-Ack1/FITC
Immunogen:	KLH conjugated synthetic peptide derived from human Ack1 N-terminus
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	IF=1:50-200 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse,Rat(predicted:Chicken,Dog,Pig,Cow)
Subcellular Location:	The cell membrane
Background:	background: This gene encodes a tyrosine kinase that binds Cdc42Hs in its GTP-bound form and inhibits both the intrinsic and GTPase-activating protein (GAP)-stimulated GTPase activity of Cdc42Hs. This binding is mediated by a unique sequence of 47 amino acids C-terminal to an SH3 domain. The protein may be involved in a regulatory mechanism that sustains the GTP-bound active form of Cdc42Hs and which is directly linked to a tyrosine phosphorylation signal transduction pathway. Several alternatively spliced transcript variants have been identified from this gene, but the full-length nature of only two transcript variants has been determined. [provided by RefSeq]. **Function:** Non-receptor tyrosine-protein and serine/threonine-protein kinase that is implicated in cell spreading and migration, cell survival, cell growth and proliferation. Transduces extracellular signals to cytosolic and nuclear effectors. Phosphorylates AKT1, AR, MCF2, WASL and WWOX.

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	Implicated in trafficking and clathrin-mediated endocytosis through binding to epidermal growth factor receptor (EGFR) and clathrin. Binds to both poly- and mono-ubiquitin and regulates ligand-induced degradation of EGFR, thereby contributing to the accumulation of EGFR at the limiting membrane of early endosomes. Downstream effector of CDC42 which mediates CDC42-dependent cell migration via phosphorylation of BCAR1. May be involved both in adult synaptic function and plasticity and in brain development. Activates AKT1 by phosphorylating it on 'Tyr-176'. Phosphorylates AR on 'Tyr-267' and 'Tyr-363' thereby promoting its recruitment to androgen-responsive enhancers (AREs). Phosphorylates WWOX on 'Tyr-287'. Phosphorylates MCF2, thereby enhancing its activity as a guanine nucleotide exchange factor (GEF) toward Rho family proteins. Contributes to the control of AXL receptor levels. Confers metastatic properties on cancer cells and promotes tumor growth by negatively regulating tumor suppressor such as WWOX and positively regulating pro-survival factors such as AKT1 and AR. **Subunit:** Interacts with NEDD4 (via WW3 domain). NEDD4L and EGF promote association with NEDD4 (By similarity). Homodimer. Interacts with AR, CDC42, WWASL and WWOX. Interacts with CSPG4 (activated). Interacts with MERTK (activated); stimulates autophosphorylation. May interact (phosphorylated) with HSP90AB1; maintains kinase activity. Interacts with NPHP1. Interacts with SNX9 (via SH3 domain). Interacts with SRC (via SH2 and SH3 domain). Interacts with EGFR, and this interaction is dependent on EGF stimulation and kinase activity of EGFR. Interacts (via kinase domain) with AKT1. Part of a collagen stimulated complex involved in cell migration composed of CDC42, CRK, TNK2 and BCAR1/p130cas. Interacts with BCAR1/p130cas via SH3 domains. Forms complexes with GRB2 and numerous receptor tyrosine kinases (RTK) including LTK, AXL or PDGFRL, in which GRB2 promotes RTK recruitment by TNK2. **Subcellular Location:** Cell membrane. Nucleus. Endosome. Cell junction, adherens junction. Cytoplasmic vesicle membrane; Peripheral membrane protein; Cytoplasmic side. Cytoplasmic vesicle, clathrin-coated vesicle. Membrane, clathrin-coated pit. Note=The Tyr-284 phosphorylated form is found both in the membrane and nucleus. Co-localizes with EGFR on endosomes. Nuclear translocation is CDC42-dependent. **Tissue Specificity:** The Tyr-284 phosphorylated form shows asignificant increase in expression in breast cancers during theprogressive stages i.e. normal to hyperplasia (ADH), ductalcarcinoma in situ (DCIS), invasive ductal carcinoma (IDC) and lymphnode metastatic (LNMM) stages. It also shows a significant increasein expression in prostate cancers during the progressive

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	stages. **Post-translational modifications:** Autophosphorylation regulates kinase activity. Phosphorylation on Tyr-518 is required for interaction with SRC and is observed during association with clathrin-coated pits. Polyubiquitinated by NEDD4 and NEDD4L. Degradation can be induced by EGF and is lysosome-dependent (By similarity). **Similarity:** Belongs to the protein kinase superfamily. Tyr protein kinase family. Contains 1 CRIB domain. Contains 1 protein kinase domain. Contains 1 SH3 domain. Contains 1 UBA domain. **Database links:** **Entrez Gene:** 10188 Human **Entrez Gene:** 51789 Mouse Omim: 606994 Human **SwissProt:** Q07912 Human **SwissProt:** O54967 Mouse **Unigene:** 518513 Human **Unigene:** 251115 Mouse Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. Ack1 is a member of a family of proteins that promote tyrosine kinase growth. This protein plays a very important role in Tumour division, growth, and metastasis, and can accelerate the infiltration of malignant Tumours.