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Phospho-ACK1(Y518) Antibody Blocking peptide

Synthetic peptide
Catalog # BP3587a

Specification

Phospho-ACK1(Y518) Antibody Blocking peptide - Product Information

Primary Accession Q07912

Phospho-ACK1(Y518) Antibody Blocking peptide - Additional Information

Gene ID 10188

Other Names
Activated CDC42 kinase 1, ACK-1, Tyrosine kinase non-receptor protein 2, TNK2, ACK1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP3587a was selected from the region of human Phospho-ACK1-pY518. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Phospho-ACK1(Y518) Antibody Blocking peptide - Protein Information

Name TNK2

Synonyms ACK1

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. 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. Phosphorylates WASP (PubMed:20110370).

Cellular Location
Cell membrane. Nucleus. Endosome {ECO:0000250|UniProtKB:O54967} Cell junction, adherens junction. Cytoplasmic vesicle membrane; Peripheral membrane protein; Cytoplasmic side. Cytoplasmic vesicle, clathrin-coated vesicle Membrane, clathrin-coated pit. Cytoplasm, perinuclear region. Cytoplasm, cytosol {ECO:0000250|UniProtKB:O54967}. Note=The Tyr-284 phosphorylated form is found both in the membrane and nucleus (By similarity). Co-localizes with EGFR on endosomes (PubMed:20333297). Nuclear translocation is CDC42-dependent (By similarity). Detected in long filamentous cytosolic structures where it co-localizes with CTPS1 (By similarity) {ECO:0000250|UniProtKB:O54967, ECO:0000269|PubMed:20333297}

Tissue Location
The Tyr-284 phosphorylated form shows a significant increase in expression in breast cancers during the progressive stages i.e. normal to hyperplasia (ADH), ductal carcinoma in situ (DCIS), invasive ductal carcinoma (IDC) and lymph node metastatic (LNMM) stages. It also shows a significant increase in expression in prostate cancers during the progressive stages.

Phospho-ACK1(Y518) Antibody Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Phospho-ACK1(Y518) Antibody Blocking peptide - Images

Phospho-ACK1(Y518) Antibody Blocking peptide - Background

ACK1 is 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.

Phospho-ACK1(Y518) Antibody Blocking peptide - References

Guo A, et al. (2008) A 105, 692-7Rikova K, et al. (2007) Cell 131, 1190-203Huang PH, et al. (2007) Proc Natl Acad Sci U S A 104, 12867-72Wolf-Yadlin A, Hautaniemi S, Lauffenburger DA, White FM (2007) Proc Natl Acad Sci U S A 104, 5860-5Goss VL, et al. (2006) Blood 107, 4888-97Wolf-Yadlin A, et al. (2006) Mol Syst Biol 2, 54Rush J, et al. (2005) Nat Biotechnol 23, 94-101