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# Phospho-ACK1(Y518) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3587a

## Product Information

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| **Application** | DB, E |
| **Primary Accession** | Q07912 |
| **Other Accession** | Q17R13 |
| **Reactivity** | Human |
| **Predicted** | Bovine, Mouse, Rat, Canine |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB15592 |
| **Calculated MW** | 114569 |

## Additional Information

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| **Gene ID** | 10188 |
| **Other Names** | Activated CDC42 kinase 1, ACK-1, Tyrosine kinase non-receptor protein 2, TNK2, ACK1 |
| **Target/Specificity** | This ACK1 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y518 of human ACK1. |
| **Dilution** | DB~~1:500 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | Phospho-ACK1(Y518) Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | TNK2 |
| **Synonyms** | ACK1 |
| **Function** | Non-receptor tyrosine-protein and serine/threonine-protein kinase that is |

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| | 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. |

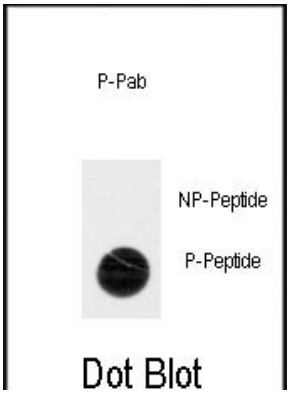
## Background

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.

## References


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


## Images




Dot blot analysis of anti-Phospho-ACK1-pY518 Antibody (Cat.#AP3587a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.