

**ACK1 Antibody (N-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7696a****Specification**

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**ACK1 Antibody (N-term) - Product Information**

Application	WB, IHC-P, FC,E
Primary Accession	<a href="#">Q07912</a>
Other Accession	<a href="#">Q17R13</a>
Reactivity	Human
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	114569
Antigen Region	10-39

**ACK1 Antibody (N-term) - Additional Information****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 peptide between 10-39 amino acids from the N-terminal region of human ACK1.

**Dilution**

WB~~1:1000  
IHC-P~~1:50~100  
FC~~1:10~50

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**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**

ACK1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**ACK1 Antibody (N-term) - 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

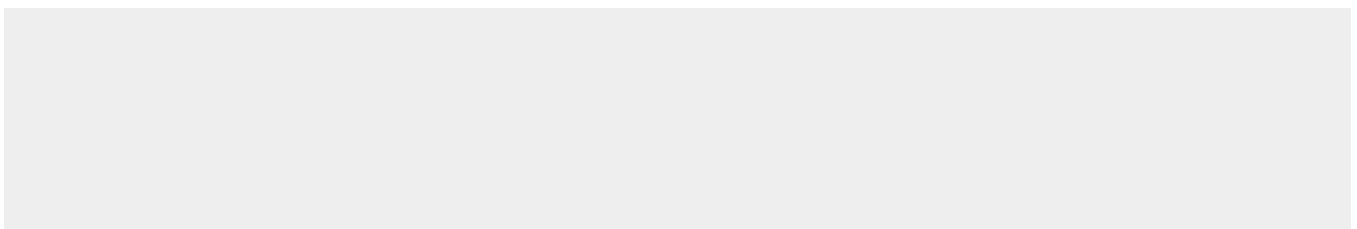
The Tyr-284 phosphorylated form shows a significant increase in expression in breast cancers during the progressive stages i.e. normal to hyperplasia (ADH), ductal carcinoma in situ (DCIS), invasive ductal carcinoma (IDC) and lymph node metastatic (LNMM) stages. It also shows a significant increase in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

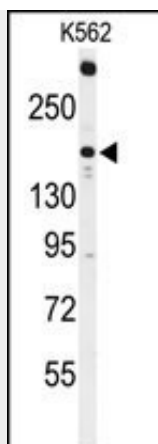
## ACK1 Antibody (N-term) - Protocols

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

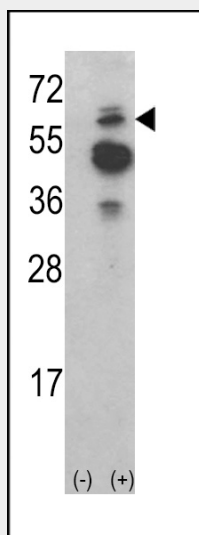
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## ACK1 Antibody (N-term) - Images

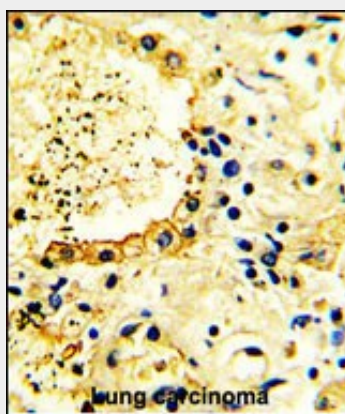




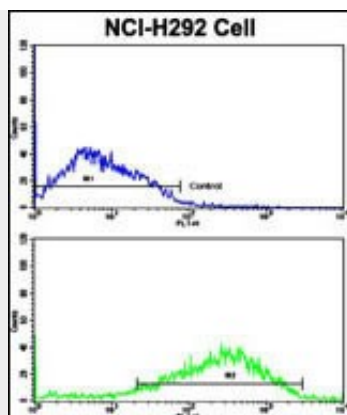
Western blot analysis of ACK1 Antibody (N-term) (Cat. #AP7696a) in K562 cell line lysates (35ug/lane). ACK1 (arrow) was detected using the purified Pab.



Western blot analysis of ACK1 (arrow) using rabbit polyclonal ACK1 Antibody (N-term) (Cat. #AP7696a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the ACK1 gene (Lane 2) (60 KD recombinant protein).



Formalin-fixed and paraffin-embedded human Lung carcinoma reacted with ACK1 Antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Flow cytometric analysis of NCI-H292 cells using ACK1 Antibody (N-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

#### **ACK1 Antibody (N-term) - 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.

#### **ACK1 Antibody (N-term) - References**

Yokoyama, N., et al., J. Biol. Chem. 278(48):47713-47723 (2003).  
Manser, E., et al., Nature 363(6427):364-367 (1993).