

Product datasheet

Recombinant human ACK1 protein ab89747

2 Images

Overview

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**Product name** Recombinant human ACK1 protein  
**Protein length** Protein fragment

Description

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**Nature** Recombinant  
**Source** Baculovirus infected Sf9 cells

Amino Acid Sequence

**Species** Human  
**Amino acids** 110 to 476

Specifications

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Our [Abpromise guarantee](#) covers the use of **ab89747** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

**Biological activity** The Specific activity of ab89747 was determined to be 20 nmol/min/mg.

**Applications** SDS-PAGE  
 Western blot  
 Functional Studies

**Form** Liquid

**Additional notes** [ab204877](#) (Poly (4:1 Glu, Tyr) peptide) can be utilized as a substrate for assessing kinase activity

Preparation and Storage

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**Stability and Storage** Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles.  
 Preservative: None  
 Constituents: 25% Glycerol, 50mM Tris HCl, 150mM Sodium chloride, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, pH 7.5  
 This product is an active protein and may elicit a biological response in vivo, handle with caution.

## General Info

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### Function

Non-receptor tyrosine kinase that regulates the activity of a number of proteins by tyrosine phosphorylation especially proteins critical for cell survival, cell growth, and proliferation. Activates AKT1 by phosphorylating it on 'Tyr-176' resulting in its activation. Phosphorylates AR on 'Tyr-267' and 'Tyr-363' and promotes its recruitment to the androgen-responsive enhancers (AREs). Phosphorylates WWOX on 'Tyr-287'. Downstream effector of CDC42 which mediates CDC42-dependent cell migration via phosphorylation of BCAR1. Binds to both poly- and mono-ubiquitin and regulates ligand-induced degradation of EGFR. Participates in clathrin-mediated endocytosis. May be involved both in adult synaptic function and plasticity and in brain development.

### Tissue specificity

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.

### Sequence similarities

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.

### Domain

The EBD (EGFR-binding domain) domain is necessary for interaction with EGFR.  
The SAM-like domain is necessary for NEDD4-mediated ubiquitination. Promotes membrane localization and dimerization to allow for autophosphorylation.  
The UBA domain binds both poly- and mono-ubiquitin.

### Post-translational modifications

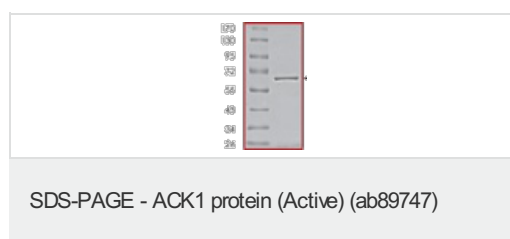
Autophosphorylation regulates kinase activity. Phosphorylation on Tyr-518 is required for interaction with SRC.  
Ubiquitinated by NEDD4. Its EGF-induced degradation is EGFR activation-dependent and is processed by lysosomes, not proteasomes.

### Cellular localization

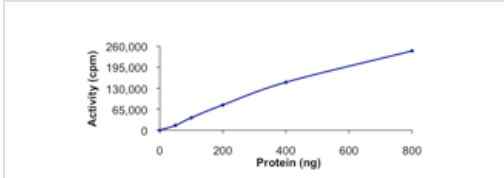
Cell membrane. Nucleus. Endosome. Cell junction > adherens junction. Cytoplasmic vesicle membrane. The Tyr-284 phosphorylated form is expressed both in the membrane and nucleus. Co-localizes with EGFR on the endosomes.

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## Images



SDS-PAGE showing ab89747 at approximately 66kDa.



Kinase Assay demonstrating specific activity of ab89747.

Functional Studies - ACK1 protein (Active)  
(ab89747)

**Please note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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