

Recombinant Human HEF1/NEDD-9 protein ab132196

1 Image

Description

Product name	Recombinant Human HEF1/NEDD-9 protein
Expression system	Wheat germ
Accession	<u>Q14511</u>
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	<div>MKYKNLMARALYDNVPECAEELAFRKGDILTVIEQNTGGL EGWWLCSLHG RQGIVPGNRVKLLIGPMQETASSHEQPASGLMQQTFGQQ KLYQVPNPQAA PRDTYQVPPSYQNQGMQVPTGHGTQEQEVYQVPPSVQR SIGGTSGPHV GKKVITPVRTGHGYVEYPSRYQKDVIDPPSHTTQGVYDI PPSSAKGPV FSVPVGEIKPQGVYDIPPTKGVYAIPPSACRDEAGLREKDY DFPPPMRQA GRPDLRPEGVYDIPPTCTKPAGKDLHVKYNCIPGAAEPV ARRHQSLSPN HPPPQLGQSVGSQNDAVDVPRGVQFLEPPAETSEKANP QERDGVYDVPLH NPPDAKGSRDLDGINRLSFSTGSTSRNMSTSTSSKE SSLSASPAQDK RLFLDPDTAIERLQRLQQALEMGVSSLMALVTTDWRCYGY MERHINEIRT AVDKVELFLKEYLHFVKGAVANAACLPELILHNKMKRELQ RVEDSHQILS QTSHDLNECSWSLNILAINKPQNKCDLDRFVMVAKTVP DDAKQLTTTIN TNAEALFRPGPSLHLKNGPESIMNSTEYPHGGSQGQLLH PGDHKAQAHN KALPPGLSKEQAPDCSSSDGSERSWMDDYDYVHLQGKE EFERQQKELLEK ENIMQNKMQLEHHQLSQFQLLEQEITKPVENDISKWKPS QSLPTTNSGV</div>

SAQDRQLLCFYDQCETHFISLLNAIDALFSCVSSAQPPRI
FVAHSKFVI
LSAHKLFIGDTRLTRQVTAQDIRNKVMNSSNQLCEQLKTIV
MATKMAALH
YPSTTALQEMVHQVTDLSRNAQLFKRSLLEMATF

Predicted molecular weight 119 kDa including tags
Amino acids 1 to 834

Specifications

Our **Abpromise guarantee** covers the use of **ab132196** in the following tested applications.

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

Applications ELISA
Western blot
SDS-PAGE

Form Liquid

Additional notes This product was previously labelled as HEF1.

Preparation and Storage

Stability and Storage Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles.
pH: 8.00
Constituents: 0.31% Glutathione, 0.79% Tris HCl

General Info

Function Docking protein which plays a central coordinating role for tyrosine-kinase-based signaling related to cell adhesion. May function in transmitting growth control signals between focal adhesions at the cell periphery and the mitotic spindle in response to adhesion or growth factor signals initiating cell proliferation. May play an important role in integrin beta-1 or B cell antigen receptor (BCR) mediated signaling in B- and T-cells. Integrin beta-1 stimulation leads to recruitment of various proteins including CRK, NCK and SHPTP2 to the tyrosine phosphorylated form.

Tissue specificity Widely expressed. Higher levels detected in kidney, lung, and placenta. Also detected in T-cells, B-cells and diverse cell lines. The protein has been detected in lymphocytes, in diverse cell lines, and in lung tissues.

Sequence similarities Belongs to the CAS family.
Contains 1 SH3 domain.

Domain Contains a central domain containing multiple potential SH2-binding sites and a C-terminal domain containing a divergent helix-loop-helix (HLH) motif. The SH2-binding sites putatively bind CRK, NCK and ABL SH2 domains. The HLH motif confers specific interaction with the HLH proteins ID2, E12 and E47. It is absolutely required for the induction of pseudohyphal growth in yeast and mediates homodimerization and heterodimerization with p130cas. The SH3 domain interacts with two proline-rich regions of focal adhesion kinase.

Post-translational modifications

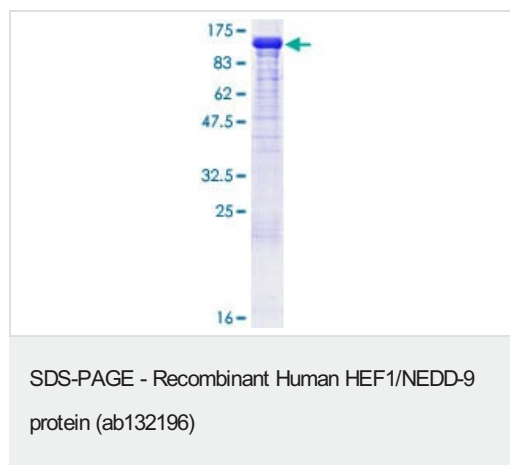
Cell cycle-regulated processing produces four isoforms: p115, p105, p65, and p55. Isoform p115 arises from p105 phosphorylation and appears later in the cell cycle. Isoform p55 arises from p105 as a result of cleavage at a caspase cleavage-related site and it appears specifically at mitosis. The p65 isoform is poorly detected.

Focal adhesion kinase 1 phosphorylates the protein at the YDYVHL motif (conserved among all cas proteins). The SRC family kinases (FYN, SRC, LCK and CRK) are recruited to the phosphorylated sites and can phosphorylate other tyrosine residues. Ligation of either integrin beta-1 or B-cell antigen receptor on tonsillar B-cells and B-cell lines promotes tyrosine phosphorylation and both integrin and BCR-mediated tyrosine phosphorylation requires an intact actin network. In fibroblasts transformation with oncogene v-ABL results in an increase in tyrosine phosphorylation. Transiently phosphorylated following CD3 cross-linking and this phosphorylated form binds to CRK and C3G. A mutant lacking the SH3 domain is phosphorylated upon CD3 cross-linking but not upon integrin beta-1 cross-linking. Tyrosine phosphorylation occurs upon stimulation of the G-protein coupled C1a calcitonin receptor in rabbit. Calcitonin-stimulated tyrosine phosphorylation is mediated by calcium- and protein kinase C-dependent mechanisms and requires the integrity of the actin cytoskeleton.

Cellular localization

Cytoplasm > cytoskeleton > spindle and Cytoplasm > cell cortex. Nucleus. Golgi apparatus. Cell projection > lamellipodium. Cytoplasm. Cell junction > focal adhesion. Localizes to both the cell nucleus and the cell periphery and is differently localized in fibroblasts and epithelial cells. In fibroblasts is predominantly nuclear and in some cells is present in the Golgi apparatus. In epithelial cells localized predominantly in the cell periphery with particular concentration in lamellipodia but is also found in the nucleus. Isoforms p105 and p115 are predominantly cytoplasmic and associate with focal adhesions while p55 associates with mitotic spindle.

Images



12.5% SDS-PAGE analysis of ab132196 stained with Coomassie Blue.

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