

**Anti-HEF1 (aa 82-398) (MOUSE) Monoclonal Antibody - 200-301-912**
**Code:** 200-301-912

**Size:** 100 µg

**Product Description:** Anti-HEF1 (aa 82-398) (MOUSE) Monoclonal Antibody - 200-301-912

**Concentration:** 1.0 mg/mL by UV absorbance at 280 nm

**PhysicalState:** Liquid (sterile filtered)

<b>Label</b>	Unconjugated
<b>Host</b>	Mouse
<b>Gene Name</b>	NEDD9
<b>Species Reactivity</b>	human
<b>Buffer</b>	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
<b>Stabilizer</b>	None
<b>Preservative</b>	0.01% (w/v) Sodium Azide
<b>Storage Condition</b>	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
<b>Synonyms</b>	Cas like docking antibody, CASL antibody, Crk associated substrate related protein antibody, dJ49G10.2 antibody, dJ761I2.1 antibody, Enhancer of filamentation 1 antibody
<b>Application Note</b>	This monoclonal antibody has been tested for use in western blotting, immunoprecipitation and immunofluorescence. This clone recognizes HEF1 under non-denaturing conditions. Specific conditions for reactivity should be optimized by the end user. Expect bands approximately 115 and 105 in size corresponding to isoforms of HEF1 protein by western blotting in the appropriate cell lysate or extract. This antibody does not recognize p130Cas. Sin1 has not been tested. IF was performed using 4% PFA fixed cells. This monoclonal mostly detects HEF1 localized at the focal adhesion sites.
<b>Background</b>	HEF1, also known as Enhancer of filamentation 1, CRK-associated substrate-related protein, CAS-L, CasL, p105 and Neural precursor cell expressed developmentally down-regulated 9 is the product of the NEDD9 (CASGL) gene. HEF1 functions as a docking protein that plays a central coordinating role for tyrosine-kinase-based signaling related to cell adhesion. HEF1 may also 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. HEF1 may also 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. HEF1 forms a homodimer and can heterodimerize with HLH proteins ID2, E12, E47 and also with p130cas. HEF1 also forms complexes in vivo with related adhesion focal tyrosine kinase (RAFTK), adapter protein CRKL and LYN kinase and also interacts with MICAL and TXNL4/DIM1. This protein 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. HEF1 is widely expressed although higher levels are detected in kidney, lung, and placental tissue. HEF1 is also detected in T-cells, B-cells and diverse cell lines. HEF1 is activated upon induction of cell growth. 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
<b>Purity And Specificity</b>	This Protein A purified antibody is directed against human HEF1 protein. The product was purified from tissue culture supernatant by chromatography. This antibody has only been tested on human cells. Reactivity against multiple isoforms is expected. Reactivity against homologues from other sources is not known. Specificity was determined by partial epitope mapping.
<b>Assay Dilutions</b>	User Optimized
<b>ELISA</b>	1:5,000 - 1:20,000
<b>WESTERN BLOT</b>	1:500
<b>IFMICROSCOPY</b>	1:100
<b>OTHER ASSAYS</b>	User Optimized
<b>Expiration</b>	Expiration date is one (1) year from date of opening.
<b>Immunogen</b>	Anti-HEF1 monoclonal antibody was produced by repeated immunizations with a synthetic peptide corresponding to amino acid residues 82-398 of human HEF1 protein.

## General Reference

Merrill,R.A., See,A.W., Wertheim,M.L. and Clagett-Dame,M. (2004) Crk-associated substrate (Cas) family member, NEDD9, is regulated in human neuroblastoma cells and in the embryonic hindbrain by all-trans retinoic acid. *Dev. Dyn.* 231 (3), 564-575.

Zheng,M. and McKeown-Longo,P.J. (2002) Regulation of HEF1 expression and phosphorylation by TGF-beta 1 and cell adhesion. *J. Biol. Chem.* 277 (42), 39599-39608.

Law,S.F., Estojak,J., Wang,B., Mysliwiec,T., Kruh,G. and Golemis,E.A. (1996) Human enhancer of filamentation 1, a novel p130cas-like docking protein, associates with focal adhesion kinase and induces pseudohyphal growth in *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 16 (7), 3327-3337.

## Related Products

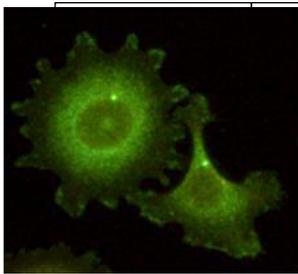
100-4184	Anti-NFKB p105 (RABBIT) Antibody - 100-4184
200-301-268	Anti-AKT pS473 (MOUSE) Monoclonal Antibody - 200-301-268
610-4302	Anti-MOUSE IgG (H&L) (RABBIT) Antibody Peroxidase Conjugated - 610-4302
B501-0500	BLOTTO Immunoanalytical Grade (Non-Fat Dry Milk) - B501-0500

## Related Links

UniProtKB - Q14511	<a href="http://www.uniprot.org/uniprot/Q14511">http://www.uniprot.org/uniprot/Q14511</a>
NCBI - 5453680	<a href="http://www.ncbi.nlm.nih.gov/protein/5453680">http://www.ncbi.nlm.nih.gov/protein/5453680</a>
GeneID - 4739	<a href="http://www.ncbi.nlm.nih.gov/gene/4739">http://www.ncbi.nlm.nih.gov/gene/4739</a>

## Images

- 1 Immunofluorescence microscopy using Rockland's Monoclonal anti-HEF1 antibody (clone 14A11) shows detection of HEF1 localized at the centrosome (bright dots) and focal adhesion sites. The antibody was used at a 1:100 dilution with a 1-min exposure time. Personal Communication. Elena Pugacheva, Fox Chase Cancer Center, Philadelphia, PA.



- 2 Western blotting using Rockland's Monoclonal anti-HEF1 antibody (clone 14A11) shows detection of HEF1 present in MCF-7 cells induced to express HEF1 by tetracycline removal (right lane). See Pugacheva et al for details.



## Disclaimer

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