

Rabbit anti-Human NUDC Polyclonal Antibody | anti-NUDC antibody

Anti-NUDC Antibody Picoband

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA127026	Rabbit	Human	ELISA, Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Western Blot

PRODUCT SYNONYMS

NUDC; Polyclonal Antibody; Anti-NUDC Antibody Picoband; protein kinase AMP-activated catalytic subunit alpha 1; 5'-AMP-activated protein kinase catalytic subunit alpha-1; AMPK subunit alpha-1; anti-NUDC antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Expressed in neurons of the rolandic area of the brain (at protein level).Expressed in the brain.
Purity/Purification	Immunogen affinity purified.
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
Applicable Applications for anti-NUDC antibody	ELISA, FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), WB (Western Blot)
Immunogen	E coli-derived human NUDC recombinant protein (Position: Q176-K267).
Subcellular Localization	Cytoplasm
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross-reactivity with other proteins.

Protein Function	Catalytic subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism. In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation. AMPK acts via phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators. Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by inly activating myosin. Regulates lipid synthesis by phosphorylating and inactivating lipid metabolic enzymes such as ACACA, ACACB, GYS1, HMGCR and LIPE; regulates fatty acid and cholesterol synthesis by phosphorylating acetyl-CoA carboxylase (ACACA and ACACB) and hormone-sensitive lipase (LIPE) enzymes, respectively. Regulates insulin-signaling and glycolysis by phosphorylating IRS1, PFKFB2 and PFKFB3. AMPK stimulates glucose uptake in muscle by increasing the translocation of the glucose transporter SLC2A4/GLUT4 to the plasma membrane, possibly by mediating phosphorylation of TBC1D4/AS160. Regulates transcription and chromatin structure by phosphorylating transcription regulators involved in energy metabolism such as CRTC2/TORC2, FOXO3, histone H2B, HDAC5, MEF2C, MLXIPL/ChREBP, EP300, HNF4A, p53/TP53, SREBF1, SREBF2 and PPARGC1A. Acts as a key regulator of glucose homeostasis in liver by phosphorylating CRTC2/TORC2, leading to CRTC2/TORC2 sequestration in the cytoplasm. In response to stress, phosphorylates 'Ser-36' of histone H2B (H2BS36ph), leading to promote transcription. Acts as a key regulator of cell growth and proliferation by phosphorylating TSC2, RPTOR and ATG1/ULK1: in response to nutrient limitation, negatively regulates the mTORC1 complex by phosphorylating RPTOR component of the mTORC1 complex and by phosphorylating and activating TSC2. In response to nutrient limitation, promotes autophagy by phosphorylating and activating ATG1/ULK1. AMPK also acts as a regulator of circadian rhythm by mediating phosphorylation of CRY1, leading to destabilize it. May regulate the Wnt signaling pathway by phosphorylating CTNNB1, leading to stabilize it. Also has tau-protein kinase activity: in response to amyloid beta A4 protein (APP) exposure, activated by CAMKK2, leading to phosphorylation of MAPT/TAU; however the relevance of such data remains unclear in vivo. Also phosphorylates CFTR, EEF2K, KLC1, NOS3 and SLC12A1.
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.

IMAGES



FCM/FACS (Flow Cytometry)

Figure 3. Flow Cytometry analysis of 293T cells using anti-NUDC antibody (AAA127026).Overlay histogram showing 293T cells stained with AAA127026 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-NUDC Antibody (AAA127026, 1ug/1x106 cells) for 30 min at 20 degree C. DyLight488 conjugated goat anti-rabbit IgG was used as secondary antibody for 30 minutes at 20 degree C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x106) used under the same conditions. Unlabelled sample (Red line) was also used as a control.



IF (Immunofluorescence)

Figure 2. IF analysis of NUDC using anti-NUDC antibody (AAA127026).NUDC was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-NUDC Antibody (AAA127026) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



WB (Western Blot)

Figure 1. Western blot analysis of NUDC using anti-NUDC antibody (AAA127026).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human HepG2 whole cell lysates,Lane 2: human K562 whole cell lysates,Lane 3: human SH-SY5Y whole cell lysates.After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-NUDC antigen affinity purified polyclonal antibody (#AAA127026) at 0.5ug/mL overnight at 4 degree C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for NUDC at approximately 43 kDa. The expected band size for NUDC is at 43 kDa.

ADDITIONAL INFORMATION

Related Product Information for anti-NUDC antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product Categories/Family for anti-NUDC antibody	Primary Antibodies; Alzheimer's Disease; Cancer; Cancer Metabolism; Cardiovascular; Energy Transfer Pathways; Fatty Acid Oxidation; Fatty Acids; Integration Of Energy; Integration Of Energy Metabolism; Lipid and Lipoprotein Metabolism; Lipids/Lipoproteins
References	1. Kikuno, R., Nagase, T., Ishikawa, K., Hirose, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N., Ohara, O. Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro. DNA Res. 6: 197-205, 1999. 2. Zhou, T., Zimmerman, W., Liu, X., Erikson, R. L. A mammalian NudC-like protein essential for dynein stability and cell viability. Proc. Nat. Acad. Sci. 103: 9039-9044, 2006.

NCBI AND UNIPROT INFORMATION

NCBI GI #	5729953
NCBI GeneID	10726
NCBI Accession #	NP_006591.1
NCBI GenBank Nucleotide #	NM_006600.3
UniProt Accession #	Q9Y266; Q5QP31; Q5QP35; Q9H0N2; Q9Y2B6
Molecular Weight	38,243 Da
NCBI Official Full Name	nuclear migration protein nudC
NCBI Official Synonym Full Names	nuclear distribution C homolog (A. nidulans)
NCBI Official Symbol	NUDC
NCBI Official Synonym Symbols	HNUDC; MNUDC; NPD011
NCBI Protein Information	nuclear migration protein nudC; nuclear distribution gene C homolog; nuclear distribution protein C homolog
UniProt Protein Name	Nuclear migration protein nudC
UniProt Gene Name	NUDC
UniProt Entry Name	NUDC_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/nudc-antibody-flow-cytometry-immunofluorescence-immunocytochemistry-western-blot-elisa/127026>