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Nemo-like kinase Rabbit pAb

Catalog # AP99589

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9UBE8
Other Accession	Q9UBE8
Reactivity	Human
Predicted	Rat, Mouse, Rabbit, Chicken, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	58283
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Nemo-like kinase
Epitope Specificity	101-200/527
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the GPI family.
SUBUNIT	Homodimer in the catalytically active form, monomer in the secreted form.
Post-translational modifications	Phosphorylated on Thr-298. Intermolecular autophosphorylation on Thr-298 activates the enzyme.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Nemo-like kinase (NLK) plays a role in cell fate determination and is required for differentiation of bone marrow stromal cells. It acts downstream of MAP3K7 and HIPK2 to negatively regulate the canonical Wnt/beta-catenin signaling pathway and the phosphorylation and destruction of the MYB transcription factor. It may suppress a wide range of transcription factors by phosphorylation of the coactivator, CREBBP. (referenced from swissprot)

Additional Information

Gene ID	51701
Other Names	RGD1561602; NLK_HUMAN; NLK; Nemo-like kinase; Protein LAK1; 2.7.11.24; LAK1; NLK_MOUSE; NLK_RAT; nemo like kinase
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	NLK
Synonyms	LAK1 {ECO:0000312|EMBL:AAD56013.1}
Function	Serine/threonine-protein kinase that regulates a number of transcription factors with key roles in cell fate determination (PubMed:12482967, PubMed:14960582, PubMed:15004007, PubMed:15764709, PubMed:20061393, PubMed:20874444, PubMed:21454679). Positive effector of the non-canonical Wnt signaling pathway, acting downstream of WNT5A, MAP3K7/TAK1 and HIPK2 (PubMed:15004007, PubMed:15764709). Negative regulator of the canonical Wnt/beta-catenin signaling pathway (PubMed:12482967). Binds to and phosphorylates TCF7L2/TCF4 and LEF1, promoting the dissociation of the TCF7L2/LEF1/beta-catenin complex from DNA, as well as the ubiquitination and subsequent proteolysis of LEF1 (PubMed:21454679). Together these effects inhibit the transcriptional activation of canonical Wnt/beta-catenin target genes (PubMed:12482967, PubMed:21454679). Negative regulator of the Notch signaling pathway (PubMed:20118921). Binds to and phosphorylates NOTCH1, thereby preventing the formation of a transcriptionally active ternary complex of NOTCH1, RBPJ/RBPSUH and MAML1 (PubMed:20118921). Negative regulator of the MYB family of transcription factors (PubMed:15082531). Phosphorylation of MYB leads to its subsequent proteolysis while phosphorylation of MYBL1 and MYBL2 inhibits their interaction with the coactivator CREBBP (PubMed:15082531). Other transcription factors may also be inhibited by direct phosphorylation of CREBBP itself (PubMed:15082531). Acts downstream of IL6 and MAP3K7/TAK1 to phosphorylate STAT3, which is in turn required for activation of NLK by MAP3K7/TAK1 (PubMed:15004007, PubMed:15764709). Upon IL1B stimulus, cooperates with ATF5 to activate the transactivation activity of C/EBP subfamily members (PubMed:25512613). Phosphorylates ATF5 but also stabilizes ATF5 protein levels in a kinase-independent manner (PubMed:25512613). Acts as an inhibitor of the mTORC1 complex in response to osmotic stress by mediating phosphorylation of RPTOR, thereby preventing recruitment of the mTORC1 complex to lysosomes (PubMed:26588989).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:O54949}. Cytoplasm {ECO:0000250|UniProtKB:O54949}. Note=Predominantly nuclear. A smaller fraction is cytoplasmic. {ECO:0000250|UniProtKB:O54949}

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