

Datasheet for ABIN3094295 NUAK1 Protein (AA 1-661) (His tag)



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Overview

Quantity:	1 mg
Target:	NUAK1
Protein Characteristics:	AA 1-661
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This NUAK1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	<p>MEGAAAPVAG DRPDLGLGAP GSPREAVAGA TAALEPRKPH GVKRHHHKHN LKHRYELQET</p> <p>LGKGTYGKVK RATERFSGRV VAIKSIRKDK IKDEQDMVHI RREIEIMSSL NHPHIISIYE</p> <p>VFENKDKIVI IMEYASKGEL YDYISERRRL SERETRHFFR QIVSAVHYCH KNGVVHRDLK</p> <p>LENILLDDNC NIKIADFGLS NLYQKDKFLQ TFCGSPLYAS PEIVNGRPYR GPEVDSWALG</p> <p>VLLYTLVYGT MPFDGFDHKN LIRQISSGEY REPTQPSDAR GLIRWMLMVN PDRRATIEDI</p> <p>ANHWVWNWGY KSSVCD DAL HDSSEPLLAR IIDWHHRSTG LQADTEAKMK GLAKPTTSEV</p> <p>MLERQRSLKK SKKENDFAQS GQDAVPESPS KLSSKRPKGI LKKRSNSEHR SHSTGFIEGV</p> <p>VGPALPSTFK MEQDLCRTGV LLPSSPEAEV PGKLSPKQSA TMPKKGILKK TQQRESGYYS</p> <p>SPERSESSEL LDSNDVMGSS IPSPSPDPA RVTSHSLSCR RKGILKHSSK YSAGTMDPAL</p> <p>VSPEMPTLES LSEPGVPAEG LRSYSRPSS VISDDSVLSS DSFDLLDLQE NRPARQIRIS</p> <p>CVSAENFLQI QDFEGLQNRP RPQYLKRYRN RLADSSFSLL TDMDDVTQVY KQALEICSKL N</p>
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Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a

special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human NUA1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm.

The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Sterility:

0.22 µm filtered

Endotoxin Level:

Protein is endotoxin free.

Grade:

Crystallography grade

Target Details

Target:	NUAK1
Alternative Name:	NUAK1 (NUAK1 Products)
Background:	<p>Serine/threonine-protein kinase involved in various processes such as cell adhesion, regulation of cell ploidy and senescence, cell proliferation and tumor progression. Phosphorylates ATM, CASP6, LATS1, PPP1R12A and p53/TP53. Acts as a regulator of cellular senescence and cellular ploidy by mediating phosphorylation of 'Ser-464' of LATS1, thereby controlling its stability. Controls cell adhesion by regulating activity of the myosin protein phosphatase 1 (PP1) complex. Acts by mediating phosphorylation of PPP1R12A subunit of myosin PP1: phosphorylated PPP1R12A then interacts with 14-3-3, leading to reduced dephosphorylation of myosin MLC2 by myosin PP1. May be involved in DNA damage response: phosphorylates p53/TP53 at 'Ser-15' and 'Ser-392' and is recruited to the CDKN1A/WAF1 promoter to participate to transcription activation by p53/TP53. May also act as a tumor malignancy-associated factor by promoting tumor invasion and metastasis under regulation and phosphorylation by AKT1. Suppresses Fas-induced apoptosis by mediating phosphorylation of CASP6, thereby suppressing the activation of the caspase and the subsequent cleavage of CFLAR. Regulates UV radiation-induced DNA damage response mediated by CDKN1A. In association with STK11, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair (PubMed:25329316).</p> <p>{ECO:0000269 PubMed:12409306, ECO:0000269 PubMed:14976552, ECO:0000269 PubMed:15060171, ECO:0000269 PubMed:15273717, ECO:0000269 PubMed:19927127, ECO:0000269 PubMed:20354225, ECO:0000269 PubMed:21317932, ECO:0000269 PubMed:25329316}.</p>
Molecular Weight:	75.3 kDa Including tag.
UniProt:	O60285

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Application Details

Restrictions: For Research Use only

Handling

Format:	Liquid
Buffer:	100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process