

Datasheet for ABIN3137467

Nibrin Protein (NBN) (AA 1-751) (His tag)[Go to Product page](#)

1 Image

Overview

Quantity:	1 mg
Target:	Nibrin (NBN)
Protein Characteristics:	AA 1-751
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This Nibrin protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	MWKLPAAGA APGEPYRLLA GVEYVVGGRKN CGILIENDQS ISRNHAVLTV NFPVTSLSQT DEIPTLTIKD NSKYGTFFVNE EKMQTGLSCT LKTGDRVTFG VFESKFRVEY EPLVVCSSCL DVSGKTVLNQ AILQLGGLTA NNWTEECTHL VMSAVKVTIK TICALICGRP IIKPEYFSEF LKAVESKKQP PDIESFYPPI DEPAIGSKSV DLSGRHERKQ IFKGKTFVFL NAKQHKKLSS AVAFGGGEAR LMAEDDEEEQ SFFSAPGTCV VDVGITNTQL IISHSQKKWI HLIMDTLQRN GLRPIPEAEI GLAVIFMTTE NYCNPQGQPC TELKTTTPGP SLSQVLSANG KIIPSAPVNM TTYVADTESE PADTCMPLSE RPEEVKIPGL EQSSRKLSQE TFNIKEAPKP SSKANNVASD TLVRGKTPSY QLSPMKFPVA NKNKDWTSQQ QQNSIKNYFQ PCTRKREDE DNPCLSSCKS SRMELSCSLLEQTQPAGPSL WKSKEHQSQN ATLDREADTS SVGGMDIELN RKSPDRKPLP TETLRPRKRK DVDLATEEEV LEELLRSTKP ELAVQVKVEK QEADDTIRKK PRMDAERNRP LNGGSEPESEN SALQEDEREK KDELQTESWS TKHEIANS DG LQDSSEELPR KLLLTEFRSL VVSNNHNTSR NLCVNECGPL KNFKKFKKAT FPGAGKLPHI IGGSDLVGHH ARKNTELEEW
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LKQEMEVQKQ QAKEESLADD LFRYNPNVKR R

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.
- Mouse Nbn 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.

Product Details

Grade: Crystallography grade

Target Details

Target: Nibrin (NBN)

Alternative Name: Nbn ([NBN Products](#))

Background: Component of the MRE11-RAD50-NBN (MRN complex) which plays a critical role in the cellular response to DNA damage and the maintenance of chromosome integrity. The complex is involved in double-strand break (DSB) repair, DNA recombination, maintenance of telomere integrity, cell cycle checkpoint control and meiosis. The complex possesses single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity, which are provided by MRE11A. RAD50 may be required to bind DNA ends and hold them in close proximity. NBN modulate the DNA damage signal sensing by recruiting PI3/PI4-kinase family members ATM, ATR, and probably DNA-PKcs to the DNA damage sites and activating their functions. It can also recruit MRE11 and RAD50 to the proximity of DSBs by an interaction with the histone H2AX. NBN also functions in telomere length maintenance by generating the 3' overhang which serves as a primer for telomerase dependent telomere elongation. NBN is a major player in the control of intra-S-phase checkpoint and there is some evidence that NBN is involved in G1 and G2 checkpoints. The roles of NBS1/MRN encompass DNA damage sensor, signal transducer, and effector, which enable cells to maintain DNA integrity and genomic stability. Forms a complex with RBBP8 to link DNA double-strand break sensing to resection. Enhances AKT1 phosphorylation possibly by association with the mTORC2 complex (By similarity). {ECO:0000250}.

Molecular Weight: 84.7 kDa Including tag.

UniProt: [Q9R207](#)

Pathways: [DNA Damage Repair](#), [Production of Molecular Mediator of Immune Response](#)

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: Protein has not been tested for activity yet. 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

Application Details

options with you in detail to assure that you receive your protein of interest.

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