

Datasheet for ABIN3084251

**NEK7 Protein (NEK7) (AA 1-302) (Strep Tag)****1** Image[Go to Product page](#)

## Overview

Quantity:	1 mg
Target:	NEK7
Protein Characteristics:	AA 1-302
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NEK7 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

## Product Details

Sequence:	<p>MDEQSQGMQG PPVPQFQPQK ALRPDMGYNT LANFRIEKKI GRGQFSEVYR AACLLDGVVPV ALKKVQIFDL MDAKARADCI KEIDLLKQLN HPNVIKYYAS FIEDNELNIV LELADAGDLS RMIKHFKKQK RLIPERTVWK YFVQLCSALE HMHSRRVMHR DIKPANVFIT ATGVVKLGDL GLGRFFSSKT TAAHSLVGTP YYMSPERIHE NGYNFKSDIW SLGCLLYEMA ALQSPFYGDK MNLYSLCKKI EQCDYPPLPS DHYSEELRQL VNMCINPDPE KRPDVTYVYD VAKRMHACTA SS</p> <p><b>Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.</b></p>
Characteristics:	<p>Key Benefits:</p> <ul style="list-style-type: none"><li>• Made in Germany - from design to production - by highly experienced protein experts.</li><li>• Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.</li></ul>

- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- 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.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- 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.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	<p>Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):</p> <ol style="list-style-type: none"><li>1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.</li><li>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.</li></ol>
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

## Product Details

Grade: Crystallography grade

## Target Details

Target: NEK7

Alternative Name: NEK7 ([NEK7 Products](#))

Background: Serine/threonine-protein kinase Nek7 (EC 2.7.11.34) (Never in mitosis A-related kinase 7) (NimA-related protein kinase 7),FUNCTION: Protein kinase which plays an important role in mitotic cell cycle progression (PubMed:17101132, PubMed:31409757, PubMed:19941817). Required for microtubule nucleation activity of the centrosome, robust mitotic spindle formation and cytokinesis (PubMed:17586473, PubMed:19414596, PubMed:31409757, PubMed:19941817, PubMed:26522158). Phosphorylates EML4 at 'Ser-146', promoting its dissociation from microtubules during mitosis which is required for efficient chromosome congression (PubMed:31409757). Phosphorylates RPS6KB1 (By similarity). Acts as an essential activator of the NLRP3 inflammasome assembly independently of its kinase activity (PubMed:26642356, PubMed:36442502). Acts by unlocking NLRP3 following NLRP3 translocation into the microtubule organizing center (MTOC), relieving NLRP3 autoinhibition and promoting formation of the NLRP3:PYCARD complex, and activation of CASP1 (PubMed:26642356, PubMed:31189953, PubMed:36442502). Serves as a cellular switch that enforces mutual exclusivity of the inflammasome response and cell division: interaction with NEK9 prevents interaction with NLRP3 and activation of the inflammasome during mitosis (PubMed:26642356, PubMed:31189953). {ECO:0000250|UniProtKB:D3ZBE5, ECO:0000269|PubMed:17101132, ECO:0000269|PubMed:17586473, ECO:0000269|PubMed:19414596, ECO:0000269|PubMed:19941817, ECO:0000269|PubMed:26522158, ECO:0000269|PubMed:26642356, ECO:0000269|PubMed:31189953, ECO:0000269|PubMed:31409757, ECO:0000269|PubMed:36442502}.

Molecular Weight: 34.6 kDa

UniProt: [Q8TDX7](#)

Pathways: [Inflammasome](#)

## 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

Application Details

	guarantee though.
Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.</p> <p>During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!</p>
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)



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