Datasheet for ABIN7554703

# NEK2 Protein (AA 1-445) (His tag)

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## Overview

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| Quantity: | 1 mg |
| Target: | NEK2 |
| Protein Characteristics: | AA 1-445 |
| Origin: | Human |
| Source: | HEK-293 Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This NEK2 protein is labelled with His tag. |

## Product Details

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| Purpose: | Custom-made recombinant NEK2 Protein expressed in mammalian cells. |
| Sequence: | MPSRAEDYEV LYTIGTGSYG RCQKIRRKSD GKILVWKELD YGSMTEAEKQ MLVSEVNLLR ELKHPNIVRY YDRIIDRTNT TLYIVMEYCE GGDLASVITK GTKERQYLDE EFVLRVMTQL TLALKECHRR SDGGHTVLHR DLKPANVFLD GKQNVKLGDF GLARILNHDT SFAKTFVGTP YYMSPEQMNR MSYNEKSDIW SLGCLLYELC ALMPPFTAFS QKELAGKIRE GKFRRIPYRY SDELNEIITR MLNLKDYHRP SVEEILENPL IADLVADEQR RNLERRGRQL GEPEKSQDSS PVLSELKLKE IQLQERERAL KAREERLEQK EQELCVRERL AEDKLARAEN LLKNYSLLKE RKFLSLASNP ELLNLPSSVI KKKVHFSGES KENIMRSENS ESQLTSKSKC KDLKKRLHAA QLRAQALSDI EKNYQLKSRQ ILGMR **Sequence without tag. The proposed Purification-Tag is based on experiences 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.** |
| Specificity: | If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer. |

## Product Details

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| Characteristics: | Key Benefits:<br>• Made to order protein - from design to production - by highly experienced protein experts.<br>• Protein expressed in mammalian cells and purified in one-step affinity chromatography<br>• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.<br><br>If you are not interested in a full length protein, please contact us for individual protein fragments.<br><br>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. |
| Purity: | > 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC) |
| Grade: | custom-made |

## Target Details

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| Target: | NEK2 |
| Alternative Name: | NEK2 (NEK2 Products) |
| Background: | Serine/threonine-protein kinase Nek2 (EC 2.7.11.1) (HSPK 21) (Never in mitosis A-related kinase 2) (NimA-related protein kinase 2) (NimA-like protein kinase 1),FUNCTION: Protein kinase which is involved in the control of centrosome separation and bipolar spindle formation in mitotic cells and chromatin condensation in meiotic cells. Regulates centrosome separation (essential for the formation of bipolar spindles and high-fidelity chromosome separation) by phosphorylating centrosomal proteins such as CROCC, CEP250 and NINL, resulting in their displacement from the centrosomes. Regulates kinetochore microtubule attachment stability in mitosis via phosphorylation of NDC80. Involved in regulation of mitotic checkpoint protein complex via phosphorylation of CDC20 and MAD2L1. Plays an active role in chromatin condensation during the first meiotic division through phosphorylation of HMGA2. Phosphorylates: PPP1CC, SGO1, NECAB3 and NPM1. Essential for localization of MAD2L1 to kinetochore and MAPK1 and NPM1 to the centrosome. Phosphorylates CEP68 and CNTLN directly or indirectly (PubMed:24554434). NEK2-mediated phosphorylation of CEP68 promotes CEP68 dissociation |

## Target Details

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| | from the centrosome and its degradation at the onset of mitosis (PubMed:25704143). Involved in the regulation of centrosome disjunction (PubMed:26220856). Phosphorylates CCDC102B either directly or indirectly which causes CCDC102B to dissociate from the centrosome and allows for centrosome separation (PubMed:30404835). {ECO:0000269\|PubMed:11742531, ECO:0000269\|PubMed:12857871, ECO:0000269\|PubMed:14978040, ECO:0000269\|PubMed:15358203, ECO:0000269\|PubMed:15388344, ECO:0000269\|PubMed:17283141, ECO:0000269\|PubMed:17621308, ECO:0000269\|PubMed:17626005, ECO:0000269\|PubMed:18086858, ECO:0000269\|PubMed:18297113, ECO:0000269\|PubMed:20034488, ECO:0000269\|PubMed:21076410, ECO:0000269\|PubMed:24554434, ECO:0000269\|PubMed:25704143, ECO:0000269\|PubMed:26220856, ECO:0000269\|PubMed:30404835}., FUNCTION: [Isoform 1]: Phosphorylates and activates NEK11 in G1/S-arrested cells. {ECO:0000269\|PubMed:15161910}., FUNCTION: [Isoform 2]: Not present in the nucleolus and, in contrast to isoform 1, does not phosphorylate and activate NEK11 in G1/S-arrested cells. {ECO:0000269\|PubMed:15161910}. |
| Molecular Weight: | 51.8 kDa |
| UniProt: | P51955 |
| Pathways: | M Phase |

## Application Details

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| Application Notes: | We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Buffer: | The buffer composition 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: | 12 months |