

CHUK Blocking Peptide(N-term)
Synthetic peptide
Catalog # BP19727A**Specification**

CHUK Blocking Peptide(N-term) - Product Information

Primary Accession [O15111](#)
Other Accession [O60680](#), [Q5ZJB4](#), [Q95KV1](#), [NP_001269.3](#)

CHUK Blocking Peptide(N-term) - Additional Information

Gene ID 1147

Other Names

Inhibitor of nuclear factor kappa-B kinase subunit alpha, I-kappa-B kinase alpha, IKK-A, IKK-alpha, IKBKA, IkappaB kinase, Conserved helix-loop-helix ubiquitous kinase, I-kappa-B kinase 1, IKK1, Nuclear factor NF-kappa-B inhibitor kinase alpha, NFKBKA, Transcription factor 16, TCF-16, CHUK, IKKA, TCF16

Target/Specificity

The synthetic peptide sequence is selected from aa 99-112 of HUMAN CHUK

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CHUK Blocking Peptide(N-term) - Protein Information

Name CHUK

Synonyms IKKA, TCF16

Function

Serine kinase that plays an essential role in the NF-kappa-B signaling pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses (PubMed: [9244310](http://www.uniprot.org/citations/9244310), PubMed: [9252186](http://www.uniprot.org/citations/9252186), PubMed: [9346484](http://www.uniprot.org/citations/9346484), PubMed: [18626576](http://www.uniprot.org/citations/18626576)). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation and phosphorylates inhibitors of NF-kappa-B on serine residues (PubMed: [9244310](http://www.uniprot.org/citations/9244310)),

PubMed:9252186, PubMed:9346484, PubMed:18626576, PubMed:35952808). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:9244310, PubMed:9252186, PubMed:9346484, PubMed:18626576). In turn, free NF-kappa-B is translocated into the nucleus and activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis (PubMed:9244310, PubMed:9252186, PubMed:9346484, PubMed:18626576). Negatively regulates the pathway by phosphorylating the scaffold protein TAXBP1 and thus promoting the assembly of the A20/TNFAIP3 ubiquitin-editing complex (composed of A20/TNFAIP3, TAX1BP1, and the E3 ligases ITCH and RNF11) (PubMed:21765415). Therefore, CHUK plays a key role in the negative feedback of NF-kappa-B canonical signaling to limit inflammatory gene activation. As part of the non-canonical pathway of NF-kappa-B activation, the MAP3K14-activated CHUK/IKKA homodimer phosphorylates NFKB2/p100 associated with RelB, inducing its proteolytic processing to NFKB2/p52 and the formation of NF-kappa-B RelB-p52 complexes (PubMed:20501937). In turn, these complexes regulate genes encoding molecules involved in B-cell survival and lymphoid organogenesis. Participates also in the negative feedback of the non-canonical NF- kappa-B signaling pathway by phosphorylating and destabilizing MAP3K14/NIK. Within the nucleus, phosphorylates CREBBP and consequently increases both its transcriptional and histone acetyltransferase activities (PubMed:17434128). Modulates chromatin accessibility at NF- kappa-B-responsive promoters by phosphorylating histones H3 at 'Ser-10' that are subsequently acetylated at 'Lys-14' by CREBBP (PubMed:12789342). Additionally, phosphorylates the CREBBP-interacting protein NCOA3. Also phosphorylates FOXO3 and may regulate this pro- apoptotic transcription factor (PubMed:15084260). Phosphorylates RIPK1 at 'Ser-25' which represses its kinase activity and consequently prevents TNF-mediated RIPK1-dependent cell death (By similarity). Phosphorylates AMBRA1 following mitophagy induction, promoting AMBRA1 interaction with ATG8 family proteins and its mitophagic activity (PubMed:30217973).

Cellular Location

Cytoplasm. Nucleus Note=Shuttles between the cytoplasm and the nucleus

Tissue Location

Widely expressed.

CHUK Blocking Peptide(N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

CHUK Blocking Peptide(N-term) - Images

CHUK Blocking Peptide(N-term) - Background

This gene encodes a member of the serine/threonine protein kinase family. The encoded protein, a component of a cytokine-activated protein complex that is an inhibitor of the essential transcription factor NF-kappa-B complex, phosphorylates sites that trigger the degradation of the inhibitor via the ubiquination pathway, thereby activating the transcription factor.

CHUK Blocking Peptide(N-term) - References

Lahtela, J., et al. N. Engl. J. Med. 363(17):1631-1637(2010)
Gouin, E., et al. Proc. Natl. Acad. Sci. U.S.A. 107(40):17333-17338(2010)
Cummins, E.P., et al. J. Immunol. 185(7):4439-4445(2010)
Li, T., et al. Nat. Immunol. 11(9):799-805(2010)
Rotman, Y., et al. Hepatology 52(3):894-903(2010)