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KD-Validated Anti-IKK alpha Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI2323

Specification

KD-Validated Anti-IKK alpha Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	O15111
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted , 85 kDa ; Observed , 85 kDa KDa**
Gene Name	**CHUK**
Aliases	**CHUK; Component Of Inhibitor Of Nuclear Factor Kappa B Kinase Complex; IKK-Alpha; NFKBIKA; IKK1; IKKA; Inhibitor Of Nuclear Factor Kappa-B Kinase Subunit Alpha; Conserved Helix-Loop-Helix Ubiquitous Kinase; IkBKA; TCF16; Transcription Factor 16; I-Kappa-B Kinase 1; EC 2.7.11.10; IKK-1; Nuclear Factor NF-Kappa-B Inhibitor Kinase Alpha; Nuclear Factor NFkappaB Inhibitor Kinase Alpha; IkB Kinase Alpha Subunit; I-Kappa-B Kinase-Alpha; I-Kappa-B Kinase Alpha; I-Kappa-B Kinase; IkappaB Kinase; IKK-A Kinase; EC 2.7.11; TCF-16; IKBKA; IKK-A; BPS2**
Immunogen	**A synthesized peptide derived from human IKK alpha**

KD-Validated Anti-IKK alpha Rabbit Monoclonal Antibody - 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, 2.7.11.10, Conserved helix-loop-helix ubiquitous kinase, I-kappa-B kinase 1, IKK-1, IKK1, Nuclear factor NF-kappa-B inhibitor kinase alpha, NFKBIKA, Transcription factor 16, TCF-16, CHUK, IKKA, TCF16

KD-Validated Anti-IKK alpha Rabbit Monoclonal Antibody - 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:18626576, PubMed:9244310, PubMed:9252186, PubMed:9346484). 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:18626576, PubMed:35952808, PubMed:9244310, PubMed:9252186, PubMed:9346484). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:18626576, PubMed:9244310, PubMed:9252186, PubMed:9346484). 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:18626576, PubMed:9244310, PubMed:9252186, PubMed:9346484). 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. Also participates 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.

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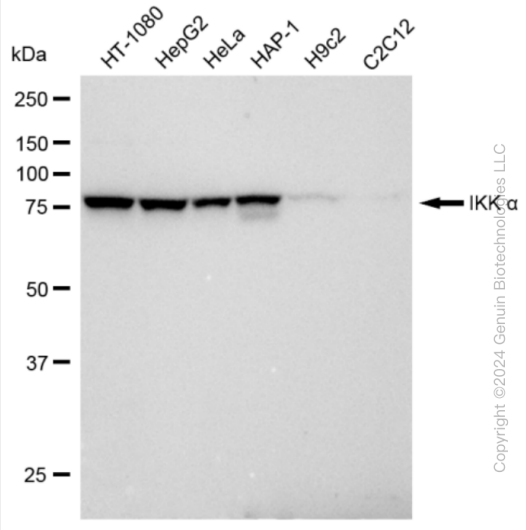
KD-Validated Anti-IKK alpha Rabbit Monoclonal Antibody - Protocols

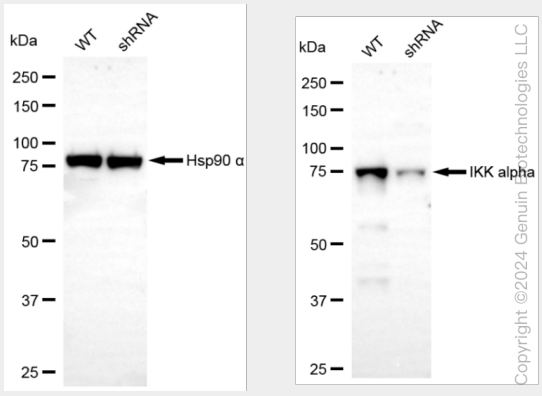
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-IKK alpha Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-IKK alpha antibody (Cat#AGI2323). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-IKK alpha antibody (Cat#AGI2323, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-IKK alpha antibody (Cat#AGI2323). IKK alpha expression in wild type (WT) and IKK alpha shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-IKK alpha antibody (Cat#AGI2323, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.

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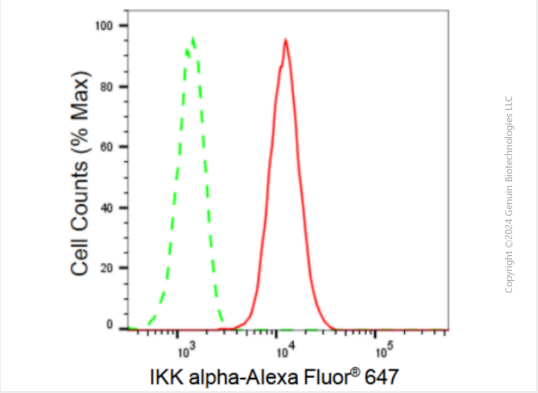
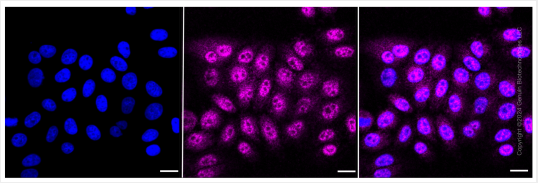


Flow cytometric analysis of IKK alpha expression in HepG2 cells using IKK alpha antibody (Cat#AGI2323, 1:2,000). Green, isotype control; red, IKK alpha.



Immunocytochemical staining of HepG2 cells with component of inhibitor of IKK alpha antibody (Cat#AGI2323, 1:1,000). Nuclei were stained blue with DAPI; Component of inhibitor of IKK alpha was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: medium. Scale bar: 20 µm.