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# IKBKE Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1145a

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | Q14164 |
| **Reactivity** | Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Clone Names** | 6B4B5 |
| **Isotype** | IgG1 |
| **Calculated MW** | 80462 |
| **Description** | Inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon.The transcription factor NFκB is retained in the cytoplasm in an inactive form by the inhibitory protein IκB. Activation of NFκB requires that IκB be phosphorylated on specific serine residues, which results in targeted degra-dation of IκB. IκB kinase α(IKKα), previously designated CHUK, interacts with IκB-αand specifically phosphorylates IκB-αon the sites that trigger its degradation, serines 32 and 36. The functional IKK complex contains three subunits, IKKα, IKKβand IKKγ(also designated NEMO), and each appear to make essential contributions to IκB phosphorylation. IKK-i is a serine/threonine kinase that shares homology with IKKαand IKKβ. IKK-i is pri-marily expressed in immune cells and is induced by lipopolysaccharide and by proinflammatory cytokines including TNFα, IL-1 and IL-6. Overexpression of IKK-i was shown to result in phosphorylation of IκBαon Ser32 andSer36, and in NFκB activation, suggesting that IKK-i may act as an IκB kinase in the immune system. |
| **Immunogen** | Purified recombinant fragment of IKBKE (aa1-257) expressed in E. Coli. |
| **Formulation** | Ascitic fluid containing 0.03% sodium azide. |

## Additional Information

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| **Gene ID** | 9641 |
| **Other Names** | Inhibitor of nuclear factor kappa-B kinase subunit epsilon, I-kappa-B kinase epsilon, IKK-E, IKK-epsilon, IkBKE, 2.7.11.10, Inducible I kappa-B kinase, IKK-i, IKBKE, IKKE, IKKI, KIAA0151 |
| **Dilution** | WB~~1/500 - 1/2000 E~~N/A |
| **Storage** | Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | IKBKE Antibody is for research use only and not for use in diagnostic or |

therapeutic procedures.

## Protein Information

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| **Name** | IKBKE |
| **Synonyms** | IKKE, IKKI, KIAA0151 |
| **Function** | Serine/threonine kinase that plays an essential role in regulating inflammatory responses to viral infection, through the activation of the type I IFN, NF-kappa-B and STAT signaling (PubMed:16840782, PubMed:18583960, PubMed:19153231, PubMed:19481526, PubMed:21138416, PubMed:22532683, PubMed:23453969, PubMed:23478265, PubMed:24882218, PubMed:32268090). Also involved in TNFA and inflammatory cytokines, like Interleukin-1, signaling (PubMed:18583960, PubMed:19153231, PubMed:22532683, PubMed:23478265). Following activation of viral RNA sensors, such as RIG-I-like receptors, associates with DDX3X and phosphorylates interferon regulatory factors (IRFs), IRF3 and IRF7, as well as DDX3X (PubMed:18583960, PubMed:19153231, PubMed:22532683, PubMed:23478265). This activity allows subsequent homodimerization and nuclear translocation of the IRF3 leading to transcriptional activation of pro-inflammatory and antiviral genes including IFNB (PubMed:18583960, PubMed:19153231, PubMed:22532683, PubMed:23478265). In order to establish such an antiviral state, IKBKE forms several different complexes whose composition depends on the type of cell and cellular stimuli (PubMed:17568778). Thus, several scaffolding molecules including IPS1/MAVS, TANK, AZI2/NAP1 or TBKBP1/SINTBAD can be recruited to the IKBKE-containing-complexes (PubMed:17568778). In addition, is also required for the induction of a subset of ISGs which displays antiviral activity, may be through the phosphorylation of STAT1 at 'Ser-708' (By similarity). Phosphorylation of STAT1 at 'Ser-708' also seems to promote the assembly and DNA binding of ISGF3 (STAT1:STAT2:IRF9) complexes compared to GAF (STAT1:STAT1) complexes, in this way regulating the balance between type I and type II IFN responses (By similarity). Activated by polyubiquitination in response to TNFA and interleukin-1, regulates the NF-kappa-B signaling pathway via the phosphorylation of CYLD, NFKBIA and p65/RELA (PubMed:16840782, PubMed:19481526, PubMed:21138416, PubMed:23453969). Activates NF-kappa- B by mediating phosphorylation and inactivation of CYLD (PubMed:19481526). Phosphorylates inhibitors of NF-kappa-B, such as NFKBIA, thus leading to the dissociation of the inhibitor/NF-kappa-B complex and ultimately the degradation of the inhibitor (PubMed:10882136). Also activates NF-kappa-B signaling by mediating phosphorylation and activation of STING1 (PubMed:32268090, PubMed:39262777, PubMed:40973797). Protects cells against DNA damage-induced cell death (PubMed:20188669). Also plays an important role in energy balance regulation by sustaining a state of chronic, low-grade inflammation in obesity, which leads to a negative impact on insulin sensitivity (By similarity). Phosphorylates AKT1 (PubMed:21464307). |
| **Cellular Location** | Cytoplasm. Nucleus. Nucleus, PML body. Note=Targeting to PML nuclear bodies upon DNA damage is TOPORS-dependent (PubMed:20188669) Located diffusely throughout the cytoplasm but locates to punctate cytoplasmic bodies when coexpressed with TRIM6 (PubMed:24882218) |
| **Tissue Location** | Highly expressed in spleen followed by thymus, peripheral blood leukocytes, pancreas, placenta. Weakly expressed in lung, kidney, prostate, ovary and colon |

## References

1. Cell. 2007 Jun 15;129(6):1065-79. 2. Mol Syst Biol. 2007;3:89. Epub 2007 Mar 13. 3. Arthritis Rheum. 2007 Mar;56(3):743-52.

## Images

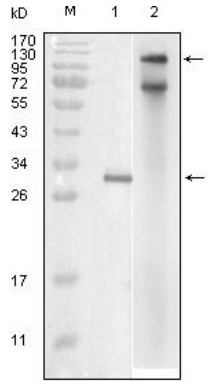



Figure 1: Western blot analysis using IKBKE mouse mAb against truncated IKBKE recombinant protein (1) and full-length IKBKE(aa1-716)-hIgGFc transfected COS7 cell lysate (2).

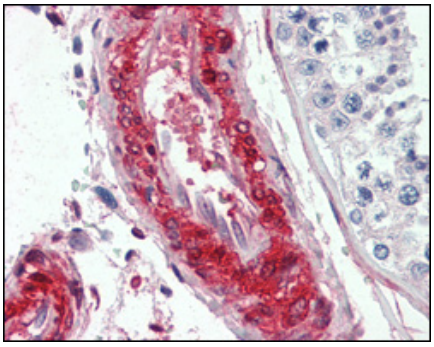


Figure 3: Immunohistochemical analysis of paraffin-embedded human vessels tissues using LPP mouse mAb.

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