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IKK epsilon Antibody

Catalog # ASC10120

Product Information

Application	WB, E, IHC-P
Primary Accession	Q14164
Other Accession	AF241789, 7288877
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	80462
Conjugate	Unconjugated
Application Notes	IKK epsilon antibody can be used for detection of IKK epsilon by Western blot at 1 g/mL. An 80 kDa band should be detected. Antibody can also be used for immunohistochemistry starting at 10 g/mL.

Additional Information

Gene ID	9641
Other Names	IKK epsilon Antibody: IKKE, IKKI, IKK-E, IKK-i, IKKE, KIAA0151, Inhibitor of nuclear factor kappa-B kinase subunit epsilon, Inducible I kappa-B kinase, I-kappa-B kinase epsilon, inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon
Target/Specificity	IKBKE; It has no cross response to IKKa, IKKb, or IKKy.
Reconstitution & Storage	IKK epsilon antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	IKK epsilon Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

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

Background

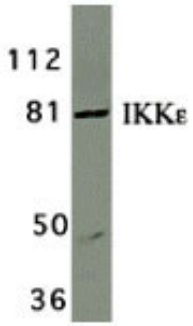
IKK epsilon Antibody: Nuclear factor kappa B (NF-κB) is a ubiquitous transcription factor and an essential mediator of gene expression during activation of immune and inflammatory responses. NF-κB mediates the expression of a great variety of genes in response to extracellular stimuli. NF-κB is associated with IκB proteins in the cell cytoplasm, which inhibit NF-κB activity. IκB is phosphorylated by IκB kinase (IKK) complex that contains IKKα, IKKβ, and IKKγ. A novel molecule in the IKK complex was recently identified and designated IKKε/IKK-i. IKK epsilon is required for the activation of NF-κB by PMA and T cell receptors but not by TNFα and IL-1. IKKε/IKK-i message is expressed in a variety of tissues and is inducible by TNFα, IL-1, and LPS.

References

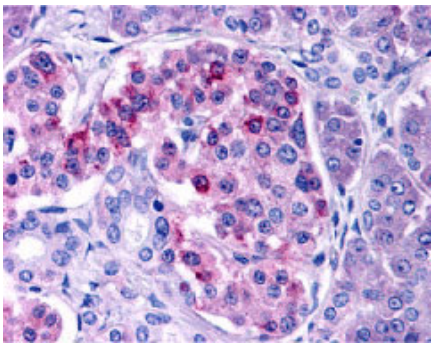
Peters RT, Liao SM, Maniatis T. IKK epsilonpsilon is part of a novel PMA-inducible IκB kinase complex. Mol

Cell 2000;5(3):513-22
Shimada T, Kawai T, Takeda K, Matsumoto M, Inoue J, Tatsumi Y, Kanamaru A, Akira S. IKK-i, a novel lipopolysaccharide-inducible kinase that is related to IκB kinases. Int Immunol 1999;11(8):1357-62 (WD0101)

Images



Western blot analysis of IKK epsilon in Jurkat whole cell lysate with IKK epsilon/IKK-i antibody at 1 µg/mL.



Immunohistochemistry of IKK epsilon in human pancreas tissue with IKK epsilon antibody at 10 µg/mL.

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