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IKBKE/IKKi/IKKe Rabbit pAb

Catalog # AP100139

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q14164
Other Accession	Q14164
Reactivity	Human
Predicted	Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	80462
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human IKBKE
Epitope Specificity	501-600/716
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. I-kappa-B kinase subfamily. Contains 1 protein kinase domain.
SUBUNIT	May interact with MAVS/IPS1. Interacts with AZI2. Interacts with SIKE1. Interacts with TICAM1/TRIF, IRF3 and DDX58/RIG-I, interactions are disrupted by the interaction between IKBKE and SIKE1. Interacts with TOPORS; induced by DNA damage. Interacts with CYLD.
Post-translational modifications	Autophosphorylated and phosphorylated by IKBKB/IKKB. Sumoylation by TOPORS upon DNA damage is required for protection of cells against DNA damage-induced cell death. Desumoylated by SENP1.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This member of the Ser/Thr protein kinase family (IkappaB kinase subfamily) phosphorylates inhibitors of NF-kappa-B thus leading to the dissociation of the inhibitor/NF-kappa-B complex and ultimately the degradation of the inhibitor. It is highly expressed in spleen followed by thymus, peripheral blood leukocytes, pancreas, placenta, and may play a special role in the immune response; it is weakly expressed in lung, kidney, prostate, ovary and colon. IKKi/IKKe is also overexpressed in breast cancers.

Additional Information

Gene ID	9641
Other Names	IKK-E; IKK-i; IKKE; IKKI; IKKE_HUMAN; IKBKE; I-kappa-B kinase epsilon; IKK-epsilon; Inducible I kappa-B kinase (IKK-i); 2.7.11.10; KIAA0151; inhibitor of nuclear factor kappa B kinase subunit epsilon; inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.