

Product name:	IKK beta (11A19) Rabbit Monoclonal Antibody
Cat number:	MABN12473
Conjugate:	Unconjugated
Size:	100µL
Clone:	Monoclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	A synthetic peptide of human IKK beta
Reactivity:	Human, Mouse
Applications:	WB 1:1000-1:2000, IP 1:20-1:50
Molecular Weight:	87kDa
Purification:	Affinity purification
Form:	Liquid
Buffer:	Supplied in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% New type preservative N and 0.05% BSA.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

The NF- κ B/Rel transcription factors are present in the cytosol in an inactive state, complexed with the inhibitory I κ B proteins (1-3). Most agents that activate NF- κ B do so through a common pathway based on phosphorylation-induced, proteasome-mediated degradation of I κ B (3-7). The key regulatory step in this pathway involves activation of a high molecular weight I κ B kinase (IKK) complex whose catalysis is generally carried out by three tightly associated IKK subunits. Serine kinase that plays an essential role in the NF- κ B signaling pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses (PubMed:30337470). Acts as part of the canonical IKK complex in the conventional pathway of NF- κ B activation. Phosphorylates inhibitors of NF- κ B on 2 critical serine residues. These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome. In turn, free NF- κ B is translocated into the nucleus and activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis. In addition to the NF- κ B inhibitors, phosphorylates several other components of the signaling pathway including NEMO/I κ BKG, NF- κ B subunits RELA and NF κ B1, as well as IKK-related kinases TBK1 and I κ BKE (PubMed:11297557, PubMed:20410276). IKK-related kinase phosphorylations may prevent the overproduction of inflammatory mediators since they exert a negative regulation on canonical IKKs. Phosphorylates FOXO3, mediating the TNF- dependent inactivation of this pro-apoptotic transcription factor (PubMed:15084260). Also phosphorylates other substrates including NCOA3, BCL10 and IRS1 (PubMed:17213322). Within the nucleus, acts as an adapter protein for NF κ BIA degradation in UV-induced NF- κ B activation (PubMed:11297557). Phosphorylates RIPK1 at 'Ser-25' which represses its kinase activity and consequently prevents TNF-mediated RIPK1-dependent cell death (By similarity). Phosphorylates the C- terminus of IRF5, stimulating IRF5 homodimerization and translocation into the nucleus (PubMed:25326418).