Product name: Anti-IKK alpha (phospho T23) antibody

Description: Rabbit polyclonal to IKK alpha (phospho T23)

Host species: Rabbit

Specificity: This antibody is specific for IKK alpha only when phosphorylated at threonine 23.

Tested applications: Suitable for: ICC/IF, WB, IHC-P, ELISA, IHC-Fr

Species reactivity: Reacts with: Mouse, Rat, Human

Immunogen: Synthetic phosphopeptide derived from Human IKK alpha around the phosphorylation site of threonine 23 (LGTPGG).

Positive control: Colon carcinoma tissue slides and MDA-MB-435 cell extract.

Form: Liquid

Storage instructions: Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

Storage buffer: pH: 7.40
Preservative: 0.02% Sodium azide
Constituents: 50% Glycerol, 0.87% Sodium chloride, PBS

Purity: Immunogen affinity purified

Purification notes: The antibody was affinity purified from rabbit antiserum by affinity chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.

Clonality: Polyclonal

Isotype: IgG

Applications:

Our Abpromise guarantee covers the use of ab38515 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function
Acts as part of the IKK complex in the conventional pathway of NF-kappa-B activation and 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. 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. Also phosphorylates NCOA3. Phosphorylates ‘Ser-10’ of histone H3 at NF-kappa-B-regulated promoters during inflammatory responses triggered by cytokines.

Tissue specificity
Widely expressed.

Involvement in disease
Defects in CHUK are the cause of cocoon syndrome (COCOS) [MIM:613630]; also known as fetal encasement syndrome. COCOS is a lethal syndrome characterized by multiple fetal malformations including defective face and seemingly absent limbs, which are bound to the trunk and encased under the skin.

Sequence similarities
Belongs to the protein kinase superfamily. Ser/Thr protein kinase family. I-kappa-B kinase subfamily.
Contains 1 protein kinase domain.

Post-translational modifications
Phosphorylated by MAP3K14/NIK, AKT and to a lesser extent by MEKK1, and dephosphorylated by PP2A. Autophosphorylated.
Acetylation of Thr-179 by Yersinia yopJ prevents phosphorylation and activation, thus blocking the I-kappa-B signaling pathway.

Cellular localization
Cytoplasm. Nucleus. Shuttles between the cytoplasm and the nucleus.

Images
**Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IKK alpha (phospho T23) antibody (ab38515)**

ab38515 at a 1:50 dilution staining IKK alpha in Human colon carcinoma tissue using Immunohistochemistry, Paraffin Embedded Tissue.

Left image: untreated.

Right image: treated with phosphopeptide.

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**Western blot - Anti-IKK alpha (phospho T23) antibody (ab38515)**

**All lanes**: Anti-IKK alpha (phospho T23) antibody (ab38515) at 1/500 dilution

**Lane 1**: MDA-MB-435 cell extract.

**Lane 2**: MDA-MB-435 cell extract + EGF (The cells were treated with 200ng/ml EGF for 5 minutes).

Lysates/proteins at 30 µg per lane.

**Secondary**

**All lanes**: Alkaline Phosphatase AffiniPure Goat Anti-Rabbit IgG (H+L)

**Predicted band size**: 85 kDa

**Observed band size**: 85 kDa

Lanes can be loaded with 5-30µg of total protein.

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**Immunohistochemistry (Frozen sections) - Anti-IKK alpha (phospho T23) antibody (ab38515)**

This image is courtesy of an anonymous Abreview.

ab38515 at 1/100 staining mouse skin tissue sections by IHC-Fr. The tissue was paraformaldehyde fixed and blocked with serum prior to incubation with the antibody for 1 hour. An Alexa Fluor ® conjugated goat anti-rabbit antibody was used as the secondary.
ICC/IF image of ab38515 stained HepG2 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab38515, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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