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ProductInformation

ANTI-IKK a-SUBUNIT (IkB Kinase, 716-734)
Developed in Rabbit,
Affinity Isolated Antibody

Product Number **I7903**

Product Description

Anti-IKKα is developed in rabbit using a synthetic peptide corresponding to amino acids 716-734 of human IκB Kinase (IKKα) (C1)[1,2] as immunogen.

Anti-IKKα detects IKKα (alpha subunit of IκB kinase) by immunoblotting (85 kDa) and has no cross-reactivity with IKKβ or IKKγ.

NF-κB is a nuclear transcription factor that mediates the expression of many genes in response to inflammatory cytokines such as IL-1 and TNF.[3] IκBs are the inhibitors of NF-κB. They bind to NF-κB dimers, masking their nuclear localization sequence (NLS), thus preventing NF-κB from translocating to the nucleus.[4] Activation and subsequent nuclear translocation of NF-κB results from the sequential phosphorylation, ubiquitination and degradation of IκB.

IκB kinase (IKK) is a serine kinase that mediates the phosphorylation of IκB. [1,2] IKK is composed of IKKα, IKKβ and IKKγ subunits. IKKα and IKKβ are catalytic, whereas IKKγ is regulatory.[1,5,6] IKKα and IKKβ share 52% overall identity and each possesses a protein kinase domain at the N terminus and a leucine zipper and helix-loop-helix motif at the C terminus.[5,6] IKK complexes appear to be IKKα/IKKβ heterodimers associated with a number of IKKγ subunits.[7] IKK activation results from the phosphorylation of its IKKβ subunit, although the IKKα subunit is also phosphorylated.[8,9] Once active, IKK phosphorylates the IκB subunits of the NF-κB-IκB complex. This leads to the ubiquitin dependent degradation of IκB, resulting in NF-κB activation. Simultaneously, the IKK subunits undergo autophosphorylation seemingly as part of a mechanism that reduces the kinase activity of IKK, which could help to explain its transient activity.

Analysis of IKKα-deficient mice indicates that IKKα, unlike IKKβ, is not required for activation of IKK and degradation of IκB in response to proinflammatory stimuli. These studies also suggested that IKKα may play a role in kerotinocyte differentiation.[10]

Reagents

Anti-IKKα is supplied as 0.5 mg/ml of affinity isolated antibody in phosphate buffered saline, containing 0.02% sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) has been sent to the attention of the safety officer at your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8°C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working concentration is 0.5 µg/ml (1:1,000 dilution) by immunoblotting using total HeLa cell lysates. A band of 85 kDa is detected.

Note: In order to obtain best results and assay sensitivities in different techniques and preparations, we recommend determining optimal working dilutions by titration test.

References

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