

PRODUCT INFORMATION



IKK β (human, recombinant)

Item No. 33739

Overview and Properties

Synonyms: I κ B kinase β , IKK2, IKBKB, NFKB1KB, Inhibitor of Nuclear Factor κ -B Kinase Subunit β , Nuclear Factor NF- κ -B-inhibitor Kinase β

Source: Active recombinant human N-terminal GST-tagged IKK β expressed in insect cells

Amino Acids: 1-756 (full length)

Uniprot No.: O14920

Molecular Weight: 105 kDa

Storage: -80°C (as supplied)

Stability: \geq 6 months

Purity: \geq 80% estimated by SDS-PAGE

Supplied in: 40 mM Tris-HCl, pH 8.0, with 110 mM sodium chloride, 2.2 mM potassium chloride, 3 mM DTT, and 20% glycerol

Protein

Concentration: *batch specific* mg/ml

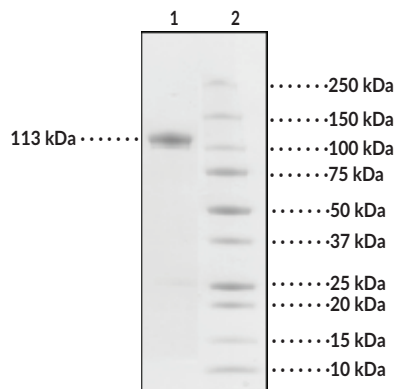
Activity: *batch specific* U/ml

Specific Activity: *batch specific* U/mg

Unit Definition: Assay was done using IKKtide as a substrate with 20 μ M ATP at 30°C for 45 min. The amount of ATP transferred was calculated using an ADP detection assay.

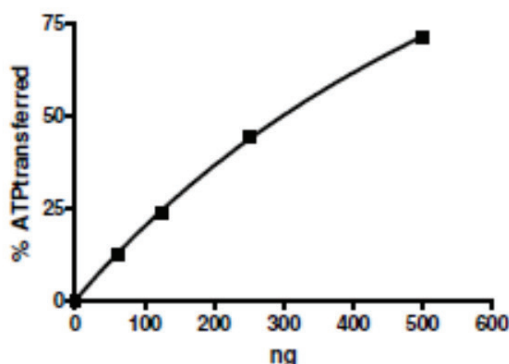
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: IKK3 β
Lane 2: MW Markers

Representative gel image shown; actual purity may vary between each batch.



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

I κ B kinase β (IKK β) is a catalytic subunit of the I κ B kinase (IKK) complex, a key mediator of NF- κ B activation.¹ It is composed of an N-terminal kinase domain, which contains an activation loop with two serine residues, Ser 177 and Ser 181, that are subject to phosphorylation, a ubiquitin-like domain, a scaffold dimerization domain, and a C-terminal domain that binds the regulatory subunit IKK γ , also known as NF- κ B essential modifier (NEMO). IKK β is ubiquitously expressed and localizes in the cytoplasm to the IKK complex, which mediates NF- κ B activation in response to numerous stimuli, including inflammatory cytokines and B- and T cell receptor engagement, as well as LPS and growth factors. Upon cellular stimulation, the TAK1-TAB complex phosphorylates and activates IKK β , which induces phosphorylation and degradation of the NF- κ B inhibitory protein I κ B, permitting NF- κ B nuclear translocation and the transcription of numerous genes involved in inflammation, immunity, and cell survival and proliferation.^{1,2} IKK β has roles in several pathological conditions, including cancer and inflammatory diseases, such as rheumatoid arthritis.¹ IKBKB mutations have been found in patients with severe combined immunodeficiency (SCID).³ Cayman's IKK β (human, recombinant) protein can be used for enzyme activity assays.

References

1. Prescott, J.A. and Cook, S.J. Targeting IKK β in cancer: Challenges and opportunities for the therapeutic utilisation of IKK β inhibitors. *Cells* **7(9)**, 115 (2018).
2. Yu, H., Lin, L., Zhang, Z., *et al.* Targeting NF- κ B pathway for the therapy of diseases: Mechanism and clinical study. *Signal Transduct. Target. Ther.* **5(1)**, 209 (2020).
3. Pannicke, U., Baumann, B., Fuchs, S., *et al.* Deficiency of innate and acquired immunity caused by an IKBKB mutation. *N. Engl. J. Med.* **369(26)**, 2504-2514 (2013).