SANTA CRUZ BIOTECHNOLOGY, INC.

IKKγ (F-12): sc-166397

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transcription factor NFκB is retained in the cytoplasm in an inactive form by the inhibitory protein IκB. Activation of NFκB requires that IκB be phospho-rylated on specific serine residues, which results in targeted degradation of IκB. IκB kinase α (IKKα), previously designated CHUK, interacts with IκBα and specifically phosphorylates IκBα on Serine 32 and 36, the sites that trigger its degradation. IKKα appears to be critical for NFκB activation in response to proinflammatory cytokines. Phosphorylation of IκB by IKKα is stimulated by the NFκB inducing kinase (NIK), which itself is a central regulator for NFκB activation in response to TNF and IL-1. The functional IKK complex contains three subunits, IKKα, IKKβ and IKKγ (also designated NEMO), and each appear to make essential contributions to IκB phosphorylation.

REFERENCES

1. Verma, I.M., et al. 1995. Rel/NFκB/IκB family: intimate tales of association and dissociation. Genes Dev. 9: 2723-2735.
2. Thanos, D., et al. 1995. NFκB: a lesson in family values. Cell 80: 529-532.
3. Conelly, M.A. and Marcu, K.B. 1995. CHUK, a new member of the helix-loop-helix and leucine zipper families of interacting proteins, contains a serine-threonine kinase catalytic domain. Cell. Mol. Biol. Res. 41: 537-549.
4. Malinin, N.L., et al. 1997. MAP3K-related kinase involved in NFκB induction by TNF, CD95 and IL-1. Nature 385: 540-544.
5. DiDonato, J.A., et al. 1997. A cytokine-responsive IκB kinase that activates the transcription factor NFκB. Nature 388: 548-554.
6. Regnier, C.H., et al. 1997. Identification and characterization of an IκB kinase. Cell 90: 373-383.
7. Zandi, E., et al. 1997. The IκB kinase complex (IKK) contains two kinase subunits, IKKα and IKKβ, necessary for IκB phosphorylation and NFκB activation. Cell 91: 243-252.

CHROMOSOMAL LOCATION

Genetic locus: IKBKG (human) mapping to Xq28; Ikbkg (mouse) mapping to X A7.3.

SOURCE

IKKγ (F-12) is a mouse monoclonal antibody raised against IKKγ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

IKKγ (F-12) is recommended for detection of IKKγ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IKKγ siRNA (h): sc-29363, IKKγ siRNA (m): sc-29364, IKKγ shRNA Plasmid (h): sc-29363-SH, IKKγ shRNA Plasmid (m): sc-29364-SH, IKKγ shRNA (h) Lentiviral Particles: sc-29363-V and IKKγ shRNA (m) Lentiviral Particles: sc-29364-V.

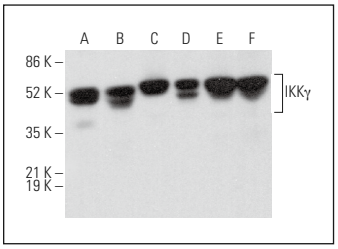
Molecular Weight of IKKγ: 48 kDa.

Positive Controls: c4 whole cell lysate: sc-364186, PC-3 cell lysate: sc-2220 or IKKγ (h): 293T Lysate: sc-116282.

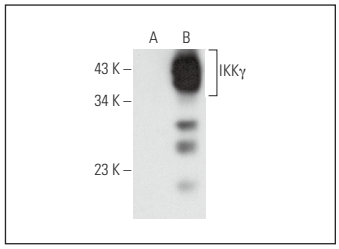
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IKKγ (F-12): sc-166397. Western blot analysis of IKKγ expression in c4 (**A**), C2C12 (**B**), PC-3 (**C**), Jurkat (**D**), U-251-MG (**E**) and A10 (**F**) whole cell lysates.



IKKγ (F-12): sc-166397. Western blot analysis of IKKγ expression in non-transfected: sc-117752 (**A**) and human IKKγ transfected: sc-116282 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kim, E.K. and Choi, E.J. 2017. SMN1 functions as a novel inhibitor for TRAF6-mediated NFκB signaling. Biochim. Biophys. Acta Mol. Cell Res. 1864: 760-770.

CONJUGATES

See **IKKγ (F-10): sc-166398** for IKKγ antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.