SANTA CRUZ BIOTECHNOLOGY, INC.

IKKγ (72C627): sc-56919

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.

SOURCE

IKKγ (72C627) is a mouse monoclonal antibody raised against full length His-tagged IKKγ of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 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

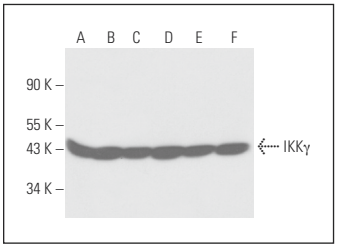
IKKγ (72C627) is recommended for detection of IKKγ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

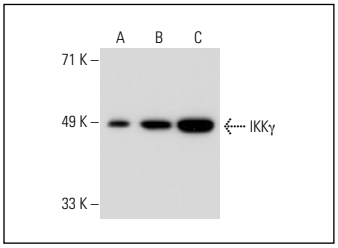
Molecular Weight of IKKγ: 48 kDa.

Positive Controls: IKKγ (h): 293T Lysate: sc-116282, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

DATA



IKKγ (72C627): sc-56919. Western blot analysis of IKKγ expression in BJAB (**A**), Jurkat (**B**), K-562 (**C**), U-937 (**D**), SW-13 (**E**) and HeLa (**F**) whole cell lysates.



IKKγ (72C627): sc-56919. Western blot analysis of IKKγ expression in non-transfected 293T: sc-117752 (**A**), human IKKγ transfected 293T: sc-116282 (**B**) and K-562 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Randall, C.M., et al. 2012. The MC159 protein from the molluscum contagiosum poxvirus inhibits NFκB activation by interacting with the IκB kinase complex. J. Immunol. 188: 2371-2379.
2. Blakely, C.M., et al. 2015. NFκB-activating complex engaged in response to EGFR oncogene inhibition drives tumor cell survival and residual disease in lung cancer. Cell Rep. 11: 98-110.
3. Zhou, Q., et al. 2016. Loss-of-function mutations in TNFAIP3 leading to A20 haploinsufficiency cause an early-onset autoinflammatory disease. Nat. Genet. 48: 67-73.
4. Franco-Jarava, C., et al. 2018. TNFAIP3 haploinsufficiency is the cause of autoinflammatory manifestations in a patient with a deletion of 13Mb on chromosome 6. Clin. Immunol. 191: 44-51.
5. Mulhern, C.M., et al. 2019. Janus kinase 1/2 inhibition for the treatment of autoinflammation associated with heterozygous TNFAIP3 mutation. J. Allergy Clin. Immunol. 144: 863-866.e5.

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.