SANTA CRUZ BIOTECHNOLOGY, INC.

IKKγ (h2): 293 Lysate: sc-159928

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., Stevenson, J.K., Schwarz, E.M.,Van Antwerp, D. and Miyamoto, S. 1995. Rel/NFκB/IκB family: intimate tales of association and dissociation. Genes Dev. 9: 2723-2735.
2. Thanos, D. and Maniatis, T. 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., Boldin, M.P., Kovalenko, A.V. and Wallach, D. 1997. MAP3K-related kinase involved in NFκB induction by TNF, CD95 and IL-1. Nature 385: 540-544.
4. DiDonato, J.A., Hayakawa, M., Rothwarf, D.M., Zandi, E. and Karin, M. 1997. A cytokine-responsive IκB kinase that activates the transcription factor NFκB. Nature 388: 548-554.
5. Régnier, C.H., Song, H.Y., Goa, X., Goeddel, D.V., Cao, Z. and Rothe, M. 1997. Identification and characterization of an IκB kinase. Cell 90: 373-383.
7. Song, H.Y., Régnier, C.H., Kirschning, C.J., Goeddel, D.V. and Rothe, M. 1997. Tumor necrosis factor (TNF)-mediated kinase cascades: bifurcation of nuclear factor κB and c-jun N-terminal kinase (JNK/SAPK) pathways at TNF receptor-associated factor 2. Proc. Natl. Acad. Sci. USA 94: 9792-9296.
8. Zandi, E., Rothwarf, D.M., Delhase, M., Hayakawa, M. and Karin, M. 1997. The IκB kinase complex (IKK) contains two kinase subunits, IKKα and IKKβ, necessary for IκB phosphorylation and NFκB activation. Cell 91: 243-252.
9. Yamaoka, S., Courtois, G., Bessia, C.,Whiteside, S.T.,Weil, R., Agou, F., Kirk, H.E., Kay, R.J. and Israel, A. 1998. Complementation cloning of NEMO, a component of the IκB kinase complex essential for NFκB activation. Cell 93: 1231-1240.

CHROMOSOMAL LOCATION

Genetic locus: IKBKG (human) mapping to Xq28.

RESEARCH USE

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

PRODUCT

IKKγ (h2): 293 Lysate represents a lysate of human IKKγ transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

IKKγ (h2): 293 Lysate is suitable as a Western Blotting positive control for human reactive IKKγ antibodies. Recommended use: 10-20 µl per lane.

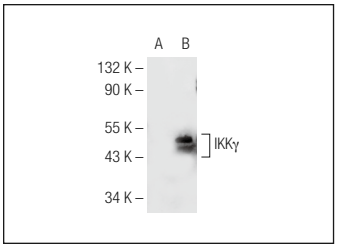
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

IKKγ (F-10): sc-166398 is recommended as a positive control antibody for Western Blot analysis of enhanced human IKKγ expression in IKKγ transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

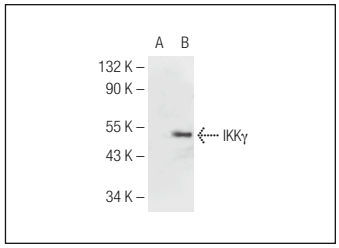
RECOMMENDED SUPPORT REAGENTS

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.

DATA



IKKγ (F-10): sc-166398. Western blot analysis of IKKγ expression in non-transfected: sc-110760 (**A**) and human IKKγ transfected: sc-159928 (**B**) 293 whole cell lysates.



IKKγ (F-12): sc-166397. Western blot analysis of IKKγ expression in non-transfected: sc-110760 (**A**) and human IKKγ transfected: sc-159928 (**B**) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.