

p-IKK α (Thr 23): sc-101706

BACKGROUND

The transcription factor NF κ B is retained in the cytoplasm in an inactive form by the inhibitory protein I κ B. Activation of NF κ B requires that I κ B be phosphorylated on specific serine residues, which results in targeted degradation of I κ B. I κ B kinase α (IKK α) interacts with I κ B α and specifically phosphorylates I κ B α on the sites that trigger its degradation, Serines 32 and 36. The functional IKK complex contains three subunits, designated IKK α , IKK β and IKK γ (also designated NEMO); each appears to make essential contributions to I κ B phosphorylation. NF κ B inducing kinase (NIK) phosphorylates IKK α at Serine 176.

REFERENCES

- Verma, I.M., et al. 1995. Rel/NF κ B/I κ B family: intimate tales of association and dissociation. *Genes Dev.* 9: 2723-2735.
- Thanos, D., et al. 1995. NF κ B: a lesson in family values. *Cell* 80: 529-532.
- DiDonato, J.A., et al. 1997. A cytokine-responsive I κ B kinase that activates the transcription factor NF κ B. *Nature* 388: 548-554.
- Régnier, C.H., et al. 1997. Identification and characterization of an I κ B kinase. *Cell* 90: 373-383.
- Zandi, E., et al. 1997. The I κ B kinase complex (IKK) contains two kinase subunits, IKK α and IKK β , necessary for I κ B phosphorylation and NF κ B activation. *Cell* 91: 243-252.
- Yamaoka, S., et al. 1998. Complementation cloning of NEMO, a component of the I κ B kinase complex essential for NF κ B activation. *Cell* 93: 1231-1240.
- Ling, L., et al. 1998. NF κ B-inducing kinase activates IKK- α by phosphorylation of Ser 176. *Proc. Natl. Acad. Sci. USA* 95: 3792-3797

CHROMOSOMAL LOCATION

Genetic locus: CHUK (human) mapping to 10q24.2, IKBKB (human) mapping to 8p11.21; Chuk (mouse) mapping to 19 C3, Ikbkb (mouse) mapping to 8 A2.

SOURCE

p-IKK α (Thr 23) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Thr 23 of IKK α of human origin.

PRODUCT

Each vial contains 100 μ g IgG 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

p-IKK α (Thr 23) is recommended for detection of Thr 23 phosphorylated IKK α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IKK α siRNA (h): sc-29365, IKK α siRNA (m): sc-29366, IKK α shRNA Plasmid (h): sc-29365-SH, IKK α shRNA Plasmid (m): sc-29366-SH, IKK α shRNA (h) Lentiviral Particles: sc-29365-V and IKK α shRNA (m) Lentiviral Particles: sc-29366-V.

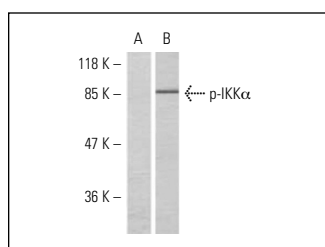
Molecular Weight of p-IKK α : 85/87 kDa.

Positive Controls: EGF-treated A-431 whole cell lysate, human breast carcinoma tissue or human colon carcinoma tissue.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



p-IKK α (Thr 23): sc-101706. Western blot analysis of phosphorylated IKK α expression in untreated (A) and EGF-treated (B) A-431 whole cell lysates.



p-IKK α (Thr 23): sc-101706. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma tissue showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

- Zhou, Y., et al. 2010. Hepatitis B virus protein X-induced expression of the CXC chemokine IP-10 is mediated through activation of NF κ B and increases migration of leukocytes. *J. Biol. Chem.* 285: 12159-12168.
- Huang, W.C., et al. 2012. Hepatitis B virus X protein induces IKK α nuclear translocation via Akt-dependent phosphorylation to promote the motility of hepatocarcinoma cells. *J. Cell. Physiol.* 227: 1446-1454.