

3pK (B-2): sc-376626

BACKGROUND

The MAPKAP kinases (for MAP kinase activated protein kinases) are a group of MAP kinase substrates which are themselves kinases. In response to activation, the MAP kinases phosphorylate downstream components on a consensus Pro-X-Ser/Thr-Pro motif. Several kinases that contain this motif have been identified and serve as substrates for the ERK and p38 MAP kinases. These include the serine/threonine kinases Rsk-1 (also designated MAPKAP kinase-1), Rsk-2 and Rsk-3, which are phosphorylated by ERK1 and ERK2. Similarly, p38 phosphorylates and activates the serine/threonine kinases MAPKAP kinase-2 and MAPKAP kinase-3 (also designated 3pK). The serine/threonine kinases Mnk1 and Mnk2 are substrates for both ERK and p38 MAP kinases.

REFERENCES

1. Sturgill, T.W., et al. 1988. Insulin-stimulated MAP2 kinase phosphorylates and activates ribosomal protein S6 kinase II. *Nature* 334: 715-718.
2. Stokoe, D., et al. 1992. MAPKAP kinase-2: a novel protein kinase activated by mitogen-activated protein kinase. *EMBO J.* 11: 3985-3994.
3. Davis, R.J. 1993. The mitogen-activated protein kinase signal transduction pathway. *J. Biol. Chem.* 268: 14553-14556.
4. Zhao, Y., et al. 1995. RSK3 encodes a novel pp90^{rk} isoform with a unique N-terminal sequence: growth factor stimulated kinase function and nuclear translocation. *Mol. Cell. Biol.* 15: 4353-4363.
5. McLaughlin, M.M., et al. 1996. Identification of mitogen-activated protein (MAP) kinase-activated protein kinase-3, a novel substrate of CSBP p38 MAP kinase. *J. Biol. Chem.* 271: 8488-8492.
6. Sithanandam, G., et al. 1996. 3pK, a new mitogen-activated protein kinase-activated protein kinase located in the small cell lung cancer tumor suppressor gene region. *Mol. Cell. Biol.* 16: 868-876.
7. Waskiewicz, A.J., et al. 1997. Mitogen-activated protein kinases activate the serine/threonine kinases Mnk1 and Mnk2. *EMBO J.* 16: 1909-1920.
8. Fukunaga, R., et al. 1997. MNK1, a new MAP kinase-activated protein kinase, isolated by a novel expression screening method for identifying protein kinase substrates. *EMBO J.* 16: 1921-1933.

CHROMOSOMAL LOCATION

Genetic locus: MAPKAPK3 (human) mapping to 2p21.2.

SOURCE

3pK (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of 3pK of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376626 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

3pK (B-2) is recommended for detection of 3pK of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 3pK siRNA (h): sc-39105, 3pK shRNA Plasmid (h): sc-39105-SH and 3pK shRNA (h) Lentiviral Particles: sc-39105-V.

Molecular Weight (predicted) of 3pK: 43 kDa.

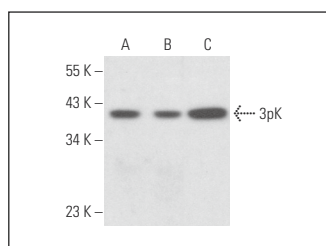
Molecular Weight (observed) of 3pK: 41 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

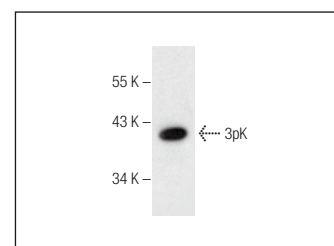
RECOMMENDED SUPPORT REAGENTS

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



3pK (B-2): sc-376626. Western blot analysis of 3pK expression in K-562 (A), HEL 92.1.7 (B) and Jurkat (C) whole cell lysates.



3pK (B-2): sc-376626. Western blot analysis of 3pK expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Dev, A., et al. 2021. Genistein nanoformulation promotes selective apoptosis in oral squamous cell carcinoma through repression of 3pK-EZH2 signalling pathway. *Phytomedicine* 80: 153386.

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.