SANTA CRUZ BIOTECHNOLOGY, INC.

MEK-7 (E-7): sc-25288

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A family of protein kinases located upstream of the MAP kinases and responsible for their activation has been identified. The prototype member of this family, designated MAP kinase kinase, or MEK-1, specifically phosphorylates the MAP kinase regulatory threonine and tyrosine residues present in the Thr-Glu-Tyr motif of ERK. A second MEK family member, MEK-2, resembles MEK-1 in its substrate specificity. MEK-3 (or MKK-3) functions to activate p38 MAP kinase, and MEK-4 (also called SEK1 or MKK-4) activates both p38 and JNK MAP kinases. MEK-5 appears to specifically phosphorylate ERK 5, whereas MEK-6 phosphorylates p38 and p38β. MEK-7 (or MKK-7) phosphorylates and activates the JNK signal transduction pathway.

CHROMOSOMAL LOCATION

Genetic locus: MAP2K7 (human) mapping to 19p13.2; Map2k7 (mouse) mapping to 8 A1.1.

SOURCE

MEK-7 (E-7) is a mouse monoclonal antibody raised against amino acids 1-160 of MEK-7 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.

MEK-7 (E-7) is available conjugated to agarose (sc-25288 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25288 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25288 PE), fluorescein (sc-25288 FITC), Alexa Fluor® 488 (sc-25288 AF488), Alexa Fluor® 546 (sc-25288 AF546), Alexa Fluor® 594 (sc-25288 AF594) or Alexa Fluor® 647 (sc-25288 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-25288 AF680) or Alexa Fluor® 790 (sc-25288 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

MEK-7 (E-7) is recommended for detection of MEK-7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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), immunohistochemistry (including paraffin-embedded sections) (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 MEK-7 siRNA (h): sc-35915, MEK-7 siRNA (m): sc-35916, MEK-7 shRNA Plasmid (h): sc-35915-SH, MEK-7 shRNA Plasmid (m): sc-35916-SH, MEK-7 shRNA (h) Lentiviral Particles: sc-35915-V and MEK-7 shRNA (m) Lentiviral Particles: sc-35916-V.

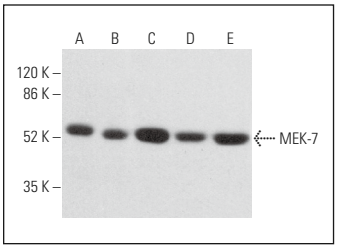
Molecular Weight of MEK-7: 47 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

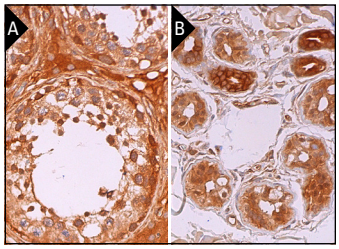
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MEK-7 (E-7): sc-25288. Western blot analysis of MEK-7 expression in HeLa (**A**), NIH/3T3 (**B**), HL-60 (**C**), PC-12 (**D**) and RAW 264.7 (**E**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



MEK-7 (E-7): sc-25288. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human sweat gland tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Hong, L., et al. 2016. miR-125b inhibited epithelial-mesenchymal transition of triple-negative breast cancer by targeting MAP2K7. Onco Targets Ther. 9: 2639-2648.
2. Huang, Y.A., et al. 2017. ApoE2, ApoE3, and ApoE4 differentially stimulate APP transcription and Aβ secretion. Cell 168: 427-441.e21.
3. Huang, Y.A., et al. 2019. Differential signaling mediated by ApoE2, ApoE3, and ApoE4 in human neurons parallels Alzheimer's disease risk. J. Neurosci. 39: 7408-7427.
4. Yan, Y., et al. 2022. Receptor-interacting protein kinase 2 (RIPK2) stabilizes c-Myc and is a therapeutic target in prostate cancer metastasis. Nat. Commun. 13: 669.

STORAGE

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

PROTOCOLS

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