



### **Anti-MEK, monoclonal (Clone 3D9)**

**Catalog Number:** 905-635

**Quantity:** 100 µg

**Introduction:**

MEK, also referred to as dual specificity mitogen-activated protein kinase kinase (MAP kinase kinase or MAPKK), ERK activator kinase, MAPK/ERK kinase, ERK kinase and MAP kinase kinase, is a 393 amino acid, 43.5kD protein that is highly conserved in evolution<sup>1</sup>. MEK phosphorylates threonine and tyrosine residues on MAP kinases ERK 1 and 2 (p44 and p42 MAP kinase)<sup>2</sup> and participates in a wide range of cellular processes including cell proliferation<sup>3</sup>, differentiation<sup>4</sup> and apoptosis<sup>5</sup>. MEK is activated by phosphorylation by RAF, which is part of the p21ras signal transduction pathway. Constitutive activation of MEK results in cellular transformation. This protein kinase has been reported to be a likely target for pharmacological intervention in proliferative diseases<sup>6</sup>. Several literature reviews cover MEK activity in great detail<sup>7,8</sup>.

**Immunogen:** Native MEK and recombinant MEK1.

**Clone:** 3D9

**Isotype:** mouse IgG<sub>1</sub>

**Purification:** Protein G

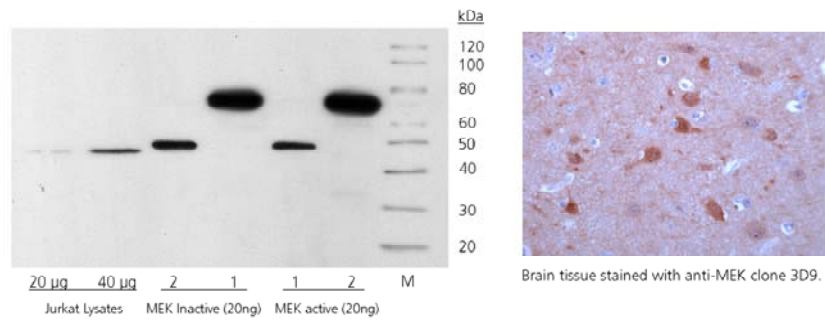
**Form:** 1 mg/mL in PBS with 0.1% sodium azide

**Storage:** Store at -20°C. Aliquot to avoid repeated freeze/thaw cycles.

**Intended Use:**

- ELISA
  - Western blotting
  - Immunohistochemistry (Formalin/paraffin)
- Staining of formalin-fixed tissues requires boiling tissue sections in 10 mM citrate, pH 6.0 for 10 min followed by cooling at RT for 20 min. The optimal dilution must be determined by the end-user.

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**Fig 1A. Immunoblot analysis.** MEK 1/2 has a MW of ~45 kDa. The recombinant MEK1 (active and inactive) has a GST Tag resulting in a MW of ~71 kDa. Protein samples (Jurkat whole cell lysates or recombinant protein) were resolved by SDS-PAGE on a 8-16% gradient gel, transferred to nitrocellulose, and blocked for 2 hrs in Tris-buffered saline containing 0.05% Tween 20 (TBS-T) and 5% milk powder. For immunodetection, blots were incubated with anti-MEK 3D9 (0.5 µg/mL) overnight at 4°C, followed by incubation with a HRP-conjugated goat anti-mouse secondary antibody (in TBS-T) for 1 hr at room temperature. Protein bands were visualized by enhanced chemiluminescence on Kodak X-OMAT film. M = Magic Mark.

**Fig 1B. Immunohistochemistry.** Formalin-fixed, paraffin-embedded brain tissue stained with 1 µg/mL anti-MEK 3D9.

**Specificity:** Recognizes human MEK1 and MEK2. It has not been tested with other species.

**Positive Control:** Brain.

- References:**
1. C.M. Crews, *et al.*, *Science*, (1992) 258:478-480.
  2. G. Hardie and S. Hanks, "The Protein Kinase Fact Book, Protein-Serine Kinases", (1995) San Diego, CA: Academic Press. 418.
  3. C.C. Lin, *et al.*, *Cell Signal*, (2002) 14(3):265-75.
  4. M.B. Miranda, *et al.*, *Leukemia*, (2002) 16(4):683-92.
  5. H. Lin, *et al.*, *Exp. Cell Res.*, (2002) 272(2):192-8.
  6. J.S. Sebolt-Leopold, *et al.*, *Nat. Med.*, (1999) 5(7):192-8.
  7. J.T. Lee, *et al.*, *Leukemia*, (2002) 16(4):485-507.
  8. C. Peyssonnaud and A. Eychene, *Biol. Cell.*, (2001) 93(1-2):53-62.

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