

**Recombinant Mouse MEK1 / MAP2K1 / MKK1 Protein**

**Cat.NO.: TP08521**

3th Edition

**Synonyms:**MAPKK1;Mek1;MEKK1;Prkmk1

**Description:**MEK1, also known as MAP2K1 and MKK1, is a member of the dual specificity protein kinase family, which acts as a mitogen-activated protein (MAP) kinase kinase. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act as an integration point for multiple biochemical signals. MEK1 is widely expressed, with extremely low levels in brain. It lies upstream of MAP kinases and stimulates the enzymatic activity of MAP kinases upon wide variety of extra- and intracellular signals. As an essential component of MAP kinase signal transduction pathway, MEK1 is involved in many cellular processes such as proliferation, differentiation, transcription regulation and development. Binding extracellular ligands such as growth factors, cytokines and hormones to their cell-surface receptors activates RAS and this initiates RAF1 activation. RAF1 then further activates the dual-specificity protein kinases MAP2K1 and MEK2. MEK1 has been shown to export PPARG from the nucleus. The MAPK cascade is also involved in the regulation of endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC), as well as in the fragmentation of the Golgi apparatus during mitosis. MKK1 catalyzes the concomitant phosphorylation of a threonine and a tyrosine residue in a Thr-Glu-Tyr sequence located in MAP kinases. Defects in MEK1 can cause cardiofaciocutaneous syndrome.

**Form:**PBS

**Molecular Weight:**43.6 kDa

**Sequences:**Met1-Ile393

**Purity:**> 95% by HPLC

**Concentration:**

**Endotoxin Level:**<1.0 EU per 1 ug of protein (determined by LAL method)

**Storage:**Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.