Technical Data Sheet

Purified Mouse Anti-MEK1 (pS298)

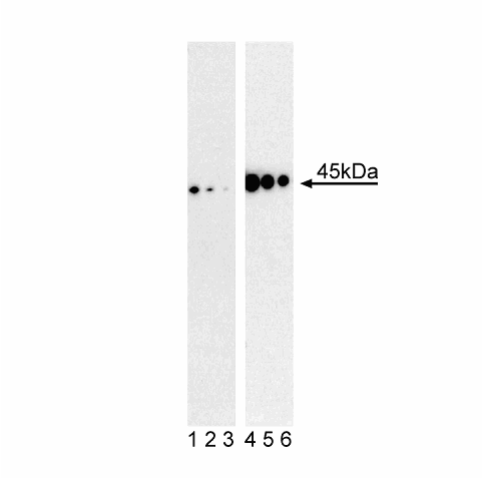
Product Information

Material Number:	**558375**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	J114-64
Immunogen:	Phosphorylated Human MEK1 Peptide
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Mouse Tested in Development: Human
Target MW:	45 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

MEK (**M**ap/**E**rk **K**inase) 1 and 2 are serine/threonine kinases, also known as MAP kinase kinases (MAP2K1 and 2, MAPKK1 and 2, or MKK1 and 2). They activate the MAP (**M**itogen-**A**ctivated **P**rotein) kinases, also known as ERKs (**E**xtracellular signal **R**egulated **K**inases), which are critical kinases in multiple signal transduction pathways that regulate cell growth and differentiation. Activation of MEK 1 and 2 is dependent upon phosphorylation of serines 218 and/or 222 by activated MAP kinase kinase kinases (MAP3Ks), such as the Raf isoforms. Hormones, growth and differentiating factors, or tumor promoters induce Raf activation via activation of Ras proteins. Alternatively, cellular adhesion can lead to phosphorylation of MEK1 at serine 298 (S298), mediated by p21-activated kinase (PAK). The S298-phosphorylated MEK1 has an enhanced capacity to interact with Raf, resulting in MEK1 activation.

The J114-64 monoclonal antibody recognizes the phosphorylated S298 of MEK1.



Western blot analysis of MEK1 (pS298) in mouse embryonic fibroblasts. *Lysates from detached (trypsinized, lanes 1-3) and attached (80-90% confluent, lanes 4-6) NIH/3T3 cell line were probed with purified mouse anti-MEK1 (pS298) monoclonal antibody at concentrations of 0.015 (lanes 1 and 4), 0.008 (lanes 2 and 5), and 0.004 µg/ml (lanes 3 and 6). MEK1 (pS298) is identified as a band of 45 kDa in the treated cells.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

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References

Eblen ST, Slack JK, Weber MJ, Catling AD. Rac-PAK signaling stimulates extracellular signal-regulated kinase (ERK) activation by regulating formation of MEK1-ERK complexes. *Mol Cell Biol.* 2002; 22(17):6023-6033.(Biology)

Kolch W. Meaningful relationships: the regulation of the Ras/Raf/MEK/ERK pathway by protein interactions. *Biochem J.* 2000; 351:289-305.(Biology)

Slack-Davis JK, Eblen ST, Zecevic M, et al. PAK1 phosphorylation of MEK1 regulates fibronectin-stimulated MAPK activation. *J Cell Biol.* 2003; 162(2):281-291. (Biology)