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#9194

p44/42 MAPK (Erk1/2) Control Cell Extracts

Controls for 10 western blots

For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity
p44/42 MAPK (Erk1/2) Control Cell Extracts (Jurkat +U0126)	80463	150 µl
p44/42 MAPK (Erk1/2) Control Cell Extracts (Jurkat +TPA)	92680	150 µl

Description Nonphosphorylated p44/42 MAPK (Erk1/2) Control Cell Extracts: Total cell extracts from Jurkat cells treated with U0126 (MEK1/2 Inhibitor) #9903 at 10 µM for 1 hour, to serve as a negative control. Supplied in SDS Sample Buffer.
Phosphorylated p44/42 MAPK (Erk1/2) Control Cell Extracts: Total cell extracts from Jurkat cells treated with TPA #4174 at 200 nM for 20 minutes, to serve as a positive control. Supplied in SDS Sample Buffer.

Storage *Supplied in SDS Sample Buffer:* 62.5 mM Tris-HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red.
Store at -20°C or -80°C for long-term storage.

Background Mitogen-activated protein kinases (MAPKs) are a widely conserved family of serine/threonine protein kinases involved in many cellular programs, such as cell proliferation, differentiation, motility, and death. The p44/42 MAPK (Erk1/2) signaling pathway can be activated in response to a diverse range of extracellular stimuli, including mitogens, growth factors, and cytokines (1-3), and research investigators consider it an important target in the diagnosis and treatment of cancer (4). Upon stimulation, a sequential three-part protein kinase cascade is initiated, consisting of a MAP kinase kinase kinase (MAPKKK or MAP3K), a MAP kinase kinase (MAPKK or MAP2K), and a MAP kinase (MAPK). Multiple p44/42 MAP3Ks have been identified, including members of the Raf family, as well as Mos and Tpl2/COT. MEK1 and MEK2 are the primary MAPKKs in this pathway (5,6). MEK1 and MEK2 activate p44 and p42 through phosphorylation of activation loop residues Thr202/Tyr204 and Thr185/Tyr187, respectively. Several downstream targets of p44/42 have been identified, including p90RSK (7) and the transcription factor Elk-1 (8,9). p44/42 are negatively regulated by a family of dual-specificity (Thr/Tyr) MAPK phosphatases, known as DUSPs or MKPs (10), along with MEK inhibitors, such as U0126 and PD98059.

Directions for Use Boil for 3 minutes prior to use. Load 15 µl of nonphosphorylated and phosphorylated p44/42 MAPK (Erk1/2) Control Cell Extracts per lane.

Background References

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