Technical Data Sheet

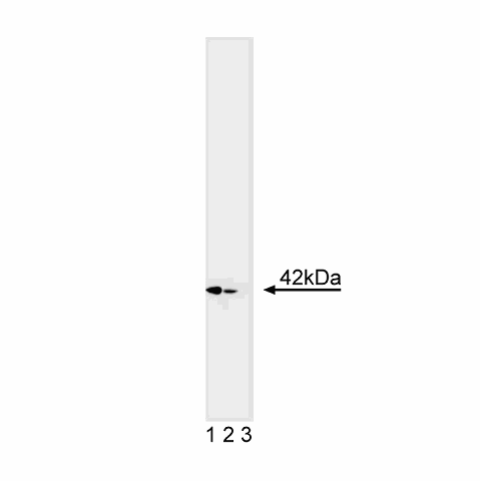
Purified Mouse Anti-ERK2

Product Information

Material Number:	**554095**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	G263-7
Immunogen:	Human ERK2 Synthetic Peptide
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Mouse Tested in Development: Human
Target MW:	42 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The members of the *M*itogen-*A*ctivated *P*rotein *K*inase (MAPK) family are components of a key signal transduction cascade that links events at the cell surface to responses in the nucleus. The signaling cascade is found in species as varied as yeast and humans, with many of the proteins being well conserved. In mammals the most widely studied members of the cascade are the *E*xtracellular signal-*R*egulated *K*inases, ERK1 (p44 MAPK) and ERK2 (p42 MAPK). ERK1 and ERK2 share 85% homology and are activated by extracellular signals such as growth factors, hormones, and phorbol esters. Activation occurs through a series of phosphorylations by kinases activating other kinases and eventually leading to phosphorylation of the ERKs. Growth factor stimulation leads to activation of Ras and Raf, leading to phosphorylation of MEK1 (MAPK/ERK kinase) which, in turn, activates the ERKs via dual phosphorylation. Once activated, the ERKs phosphorylate other cytoplasmic signalling molecules (protein kinases and phosphatases), cell-surface receptors, microtubule-associated proteins, and transcription factors in the nucleus. Thus, the active ERK has myriad downstream effectors that implicate it in the control of cell proliferation and differentiation, as well as regulation of the cytoskeleton. Furthermore, studies have shown that elevated ERK activity is associated with some cancers. The G263-7 recognizes ERK2. It does not cross-react with ERK1. Clone G263-7 was originally characterized in human (A431) and mouse (NIH/3T3) cells.A human ERK2 synthetic peptide was used as immunogen.



Western blot analysis of ERK2. *Lysate from Rous Sarcoma Virustransformed mouse 3T3 fibroblasts was probed with anti-ERK2. ERK2 is detected at ~42 kDa.*

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
Immunoprecipitation	Tested During Development

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Recommended Assay Procedure:

Applications include western blot analysis (1-2 µg/ml). Store the antibody at 4°C. Other applications not routinely tested at BD Biosciences Pharmingen include immunoprecipitation (1-2 µg/1x10^6 cells). Human fibroblasts, A431 human epidermal carcinoma cells (ATCC CRL-1555) and NIH/3T3 mouse embryo fibroblasts (ATCC CRL-1658) are suggested as positive controls.

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

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.

References

Boulton TG, Nye SH, Robbins DJ. ERKs: a family of protein-serine/threonine kinases that are activated and tyrosine phosphorylated in response to insulin and NGF. *Cell.* 1991; 65(4):663-675.(Biology)