Technical Data Sheet

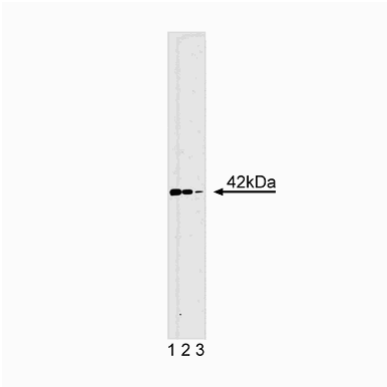
Purified Mouse Anti-ERK2

Product Information

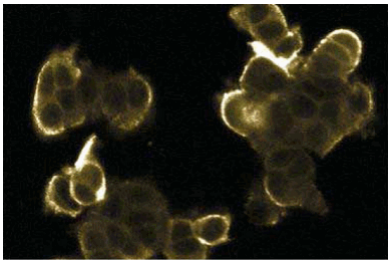
Material Number:	**610103**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	33/ERK2
Immunogen:	Rat ERK2 aa. 219-358
Isotype:	Mouse IgG2b
Reactivity:	QC Testing: Rat Tested in Development: Human, Dog, Mouse, Chicken, Frog
Target MW:	42 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

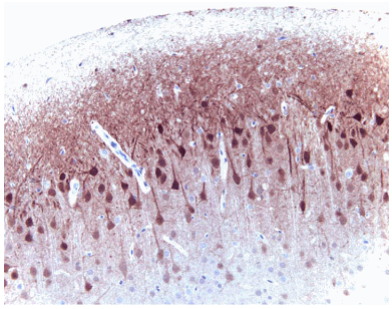
The family of serine/threonine kinases known as ERKs (extracellular signal regulated kinases) or MAPKs (mitogen-activated protein kinases) are activated after cell stimulation by a wide variety of hormones and growth factors. Cell stimulation induces a signaling cascade that leads to phosphorylation of MEK (MAPK/ERK kinase) which, in turn, activates ERK via tyrosine and threonine phosphorylation. Structural analysis of ERK2 indicates that phosphorylation induces a conformational change that exposes the active site for substrate binding. Myriad proteins represent the downstream effectors for the active ERK and implicate it in the control of cell proliferation and differentiation, as well as regulation of the cytoskeleton. Activation of ERK is normally transient and cells possess dual specificity phosphatases that are responsible for its down-regulation. Furthermore, multiple studies have shown that elevated ERK activity is associated with some cancers. ERK2 is the 42kDa member of the ERK family and is highly homologous to ERK1.



Western blot analysis of ERK2 on rat pituitary lysate. *Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of ERK2.*



Immunofluorescence staining of MCF7 cells.



ERK 2 (clone 33) staining on rat brain. *Formalin fixed paraffin section with citrate buffer pretreatment. 20X*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20°C.

Application Notes

Application

Western blot	Routinely Tested
Immunoprecipitation	Tested During Development
Immunofluorescence	Tested During Development
Immunohistochemistry	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

BD Biosciences

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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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Kim SJ, Ju JW, Oh CD. ERK-1/2 and p38 kinase oppositely regulate nitric oxide-induced apoptosis of chondrocytes in association with p53, caspase-3, and differentiation status. *J Biol Chem.* 2002; 277(2):1332-1339.(Clone-specific: Western blot)

Lehmann K, Janda E, Pierreux CE, et al. Raf induces TGFbeta production while blocking its apoptotic but not invasive responses: a mechanism leading to increased malignancy in epithelial cells. *Genes Dev.* 2000; 14(20):2610-2622.(Clone-specific: Western blot)

Liu L, Tsai JC, Aird WC. Egr-1 gene is induced by the systemic administration of the vascular endothelial growth factor and the epidermal growth factor. *Blood.* 1772; 96(5):1772-1781.(Clone-specific: Western blot)

Lund-Johansen F, Davis K, Bishop J, de Waal Malefyt R. Flow cytometric analysis of immunoprecipitates: high-throughput analysis of protein phosphorylation and protein-protein interactions. *Cytometry.* 2000; 39(4):250-259.(Clone-specific: Flow cytometry, Immunoprecipitation, Western blot)

Visconti R, Gadina M, Chiariello M. Importance of the MKK6/p38 pathway for interleukin-12-induced STAT4 serine phosphorylation and transcriptional activity. *Blood.* 2000; 96(5):1844-1852.(Clone-specific: Immunoprecipitation, In vitro kinase assay, Western blot)