# Technical Data Sheet Purified Mouse Anti-ERK1

Product Information		
Material Number:	610408	
Size:	50 µg	
Concentration:	250 μg/ml	
Clone:	MK1	
Immunogen:	Rat ERK1 aa. 325-345	
Isotype:	Mouse IgG1	
Reactivity:	QC Testing: Rat Tested in Development: Mouse, Human, Chicken, Dog, Frog	
Target MW:	44 kDa	
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and $\leq 0.09\%$ sodium azide.	

#### Description

The family of serine/threonine kinases known as ERKs (extracellular signal regulated kinases) or MAPKs (mitogen-activated protein kinases) is activated after cell stimulation by a 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. A myriad of 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 phosphotases that are responsible for its down-regulation. Furthermore, multiple studies have shown that elevated ERK activity is associated with some cancers. ERK1 is the 44 kDa member of the ERK family and shares 85% homology with ERK2 (42 kD).



Western blot analysis of ERK1 on a rat cerebrum lysate. 1:4000 (lane 1), 1:8000 (lane 2), 1:16,000 (lane 3) dilution of the mouse anti-ERK1 antibody. ERK1 is expected to appear at 44 kD with crossreactivity reported to ERK2 which may appear at 42 kD.



Immunofluorescence staining of A431 cells (Human epithelial carcinoma; ATCC CRL-1555).

### **Preparation and Storage**

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

BD Biosciences bdbiosciences.com							
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995		
For country-sp	ecific contact in	formation, visit	bdbiosciences.co	om/how_to_orde	r/		
Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation							
of any patents. Bl	D Biosciences will n	ot be held responsi	ble for patent infrin	gement or other vio	lations that may occur with the		
use of our produc	ts. Purchase does r	not include or carry	any right to resell o	r transfer this produ	ct either as a stand-alone		
product or as a co	omponent of anoth	er product. Any us	e of this product otl	her than the permitt	ed use without the express		
written authoriza	tion of Becton Dici	kinson and Compan	y is strictly prohibite	ed.			
For Bernard Use Only Not for use in diamontic anthermore tic and use Not for models							

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale. BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2008 BD

## **Application Notes**

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

#### **Recommended Assay Procedure:**

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western\_Blotting.shtml

## **Suggested Companion Products**

Catalog Number	Name	Size	Clone
611463	Rat Cerebrum Lysate	500 μg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

## **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

Boulton TG, Cobb MH. Identification of multiple extracellular signal-regulated kinases (ERKs) with antipeptide antibodies. *Cell Regul.* 1991; 2(5):357-371.(Biology) Clark EA, Hynes RO. Ras activation is necessary for integrin-mediated activation of extracellular signal-regulated kinase 2 and cytosolic phospholipase A2 but not for cytoskeletal organization. *J Biol Chem.* 1996; 271(25):14814-14818.(Biology)

Cobb MH, Goldsmith EJ. How MAP kinases are regulated. J Biol Chem. 1995; 270(25):14843-14846.(Biology)

Radoja S, Saio M, Schaer D, Koneru M, Vukmanovic S, Frey AB. CD8(+) tumor-infiltrating T cells are deficient in perforin-mediated cytolytic activity due to defective microtubule-organizing center mobilization and lytic granule exocytosis. *J Immunol.* 2001; 167(9):5042-5051. (Biology: Western blot)