Technical Data Sheet

Purified Mouse Anti-p38α

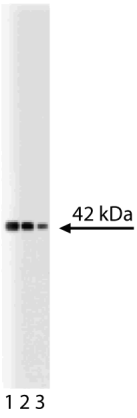
Product Information

Material Number:	**612169**
Alternate Name:	SAPK2a
Size:	150 µg
Concentration:	250 µg/ml
Clone:	27/p38α/SAPK2a
Immunogen:	Human p38 MAPK aa. 243-355
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Dog, Mouse, Rat
Target MW:	42 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

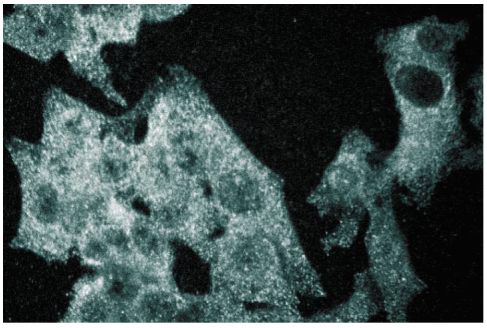
Description

Activation of the immune and inflammatory responses often involves the recognition of bacterial endotoxin (lipopolysaccharide or LPS). Binding of LPS by monocytic cells results in the production and release of proinflammatory cytokines, such as IL-1 and TNF-α. LPS-induced signaling cascades involve members of the Ser/Thr protein kinase family known as the mitogen activated protein kinases (MAPKs). One of these, p38 MAP kinase (p38 MAPK or CSPB2), is a human homologue of HOG1, a yeast MAP kinase that is essential for growth under conditions of elevated osmolarity. Similar to HOG1, p38 MAPK is phosphorylated in response to hyperosmolarity, but also in response to a variety of stimuli including LPS, IL-1, or TNF-α. Efficient activation of p38 MAPK requires phosphorylation of Thr-180 and Tyr-182. At least three Thr/Tyr kinases (MKK3, MKK4/SEK1, and MKK6) phosphorylate and activate p38 MAPK. This leads to the activation of multiple transcription factors (NF-κB, ATF-2, Elk-1, and CHOP/GADD143) that induce expression of proinflammatory cytokine genes. In addition to its role in immunity, p38 MAPK is widely expressed and serves as an important signal transducer in a variety of cell types.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of p38α on a Jurkat lysate. *Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of the anti- p38α antibody.*



Immunofluorescence staining of HeLa cells.

Preparation and Storage

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

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	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

Brunet A, Pouyssegur J. Identification of MAP kinase domains by redirecting stress signals into growth factor responses. *Science.* 1996; 272(5268):1652-1655.(Biology)

Han J, Lee JD, Bibbs L, Ulevitch RJ. A MAP kinase targeted by endotoxin and hyperosmolarity in mammalian cells. *Science.* 1994; 265(5173):808-811.(Biology)

Morinobu A, Gadina M, Strober W, et al. STAT4 serine phosphorylation is critical for IL-12-induced IFN-gamma production but not for cell proliferation. *Proc Natl Acad Sci U S A.* 2002; 99(19):12281-12286.(Biology: Western blot)

Winston BW, Chan ED, Johnson GL, Riches DW. Activation of p38mapk, MKK3, and MKK4 by TNF-alpha in mouse bone marrow-derived macrophages. *J Immunol.* 1997; 159(9):4491-4497.(Biology)