Technical Data Sheet

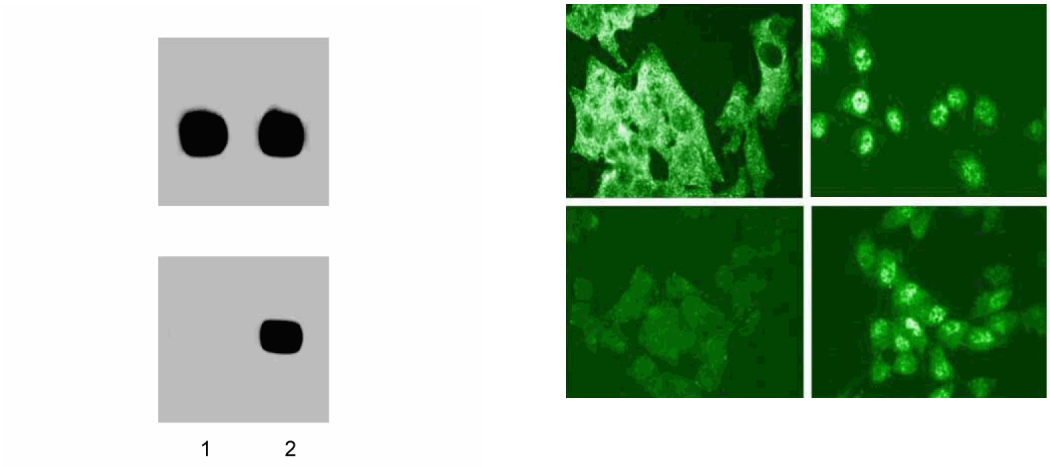
Purified Mouse Anti-p38 MAPK (pT180/pY182)

Product Information

Material Number:	**612280**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	30/p38 MAPK (pT180/pY182)
Immunogen:	Human p38 MAPK (pT180/pY182)
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat
Target MW:	38-42 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). MAPK signal transduction pathways mediate the effects of various extracellular stimuli on biological processes such as proliferation, differentiation, and death. The p38 MAP kinases include p38α, β, γ, and δ. These ser/thr kinases are activated by dual phosphorylation on Thr and Tyr within the motif Thr-Gly-Tyr located in kinase subdomain VIII. Activation of p38 MAPK is mediated specifically by the **M**AP **k**inase **k**inases, MKK3, MKK4, and MKK6. This leads to the activation of multiple transcription factors (NF-κB, ATF-2, Elk-1, and CHOP) that induce expression of many different genes, including proinflammatory cytokine genes. Thus, p38 MAPKs are central kinases in muliple signal transduction pathways.



Western blot analysis for p38 MAPK (pT180/pY182) (left figure). *HeLa cells (Human cervical epitheloid carcinoma; ATCC CCL-2) were either left untreated (lane 1) or treated with 25 µg/mL anisomycin, an antibiotic and protein synthesis inhibitor, for 15 min at 37°C (lane 2). The top panel was probed with a mouse anti-p38α antibody (cat.# 612168) and the bottom was probed with the mouse anti-p38 (pT180/pY182) antibody.*

Immunofluorescence staining for p38 MAPK (pT180/pY182) (right figure). *HeLa cells (Human cervical epitheloid carcinoma; ATCC CCL-2) were either untreated (upper left and bottom left panels) or were treated for 15 min with 25 µg/mL anisomycin, an antibiotic and protein synthesis inhibitor (upper right and bottom right panels). Cells were fixed in 3.75% paraformaldehyde and permeabilized with 0.2% Triton-X 100. Immunofluorescent staining was performed with either a mouse anti-p38α antibody (cat.#612168) (upper left and upper right panels) or with the mouse anti-p38 MAPK (pT180/pY182) antibody (bottom left and bottom right panels).*

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Preparation and Storage

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

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Flow cytometry	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
611449	HeLa Cell Lysate	500 µg	(none)
611692	HeLa + Anisomycin Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal
612168	Purified Mouse Anti-p38α	50 µg	27/p38α/SAPK2a

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

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)
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)