Technical Data Sheet

PE Mouse Anti-p38 MAPK (pT180/pY182)

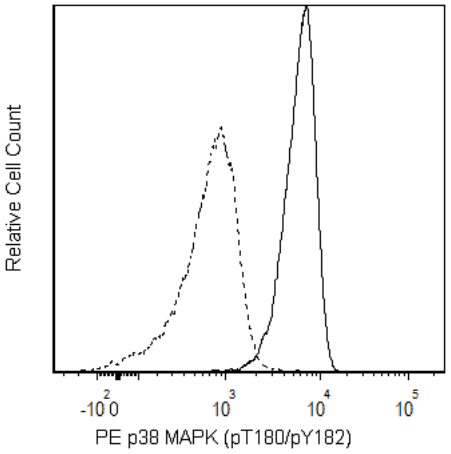
Product Information

Material Number:	**612565**
Alternate Name:	MAPK14; p38 MAP kinase; p38 MAPK; RK; CSBP2
Size:	50 Tests
Vol. per Test:	20 µl
Clone:	36/p38 (pT180/pY182)
Immunogen:	Phosphorylated Human p38 MAPK (pT180/pY182) Peptide
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat
Storage Buffer:	Aqueous buffered solution containing BSA 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 monocytes results in the production and release of proinflammatory cytokines, such as IL-1 and TNF. LPS-induced signaling cascades involve members of the Ser/Thr protein kinase family known as the **M**itogen **A**ctivated **P**rotein **K**inases (MAPKs). MAPK signal transduction pathways mediate the effects of various extracellular stimuli on biological processes such as proliferation, differentiation, and death. The p38 MAPKs include p38α (MAPK14), β (MAPK11), γ (MAPK12), and δ (MAPK13). These Ser/Thr kinases are activated by dual phosphorylation on threonine (T) and tyrosine (Y) 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 multiple signal transduction pathways.

The 36/p38 (pT180/pY182) monoclonal antibody recognizes the conserved dual phosphorylated site pT180/pY182 of p38α, β, γ, and δ.



Flow cytometric analysis of p38 MAPK (pT180/pY182) expression on human peripheral blood leukocytes. *Treated human control cells (solid line histogram) and untreated human control cells (dashed line histogram) from the T Cell Kit Lyophilized Cells (Cat. No. 560760) were stained with PE Mouse Anti-p38 MAPK (pT180/pY182) (Cat. No. 612565). Fluorescent histograms were derived from gated events with the side and forward light-scattering characteristics of viable leukocytes.*

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.
The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Recommended Assay Procedure:

For more information concerning BD Phosflow™ protocols on PBMCs and other resources, please reference the protocols section under "Intracellular Flow" at our website: http://www.bdbiosciences.com/us/s/resources.

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The purified or conjugated mAb was characterized by flow cytometry (Flow) and western blot (WB) using these model systems:

Method	*Species*	*Cells*	*Treatment*	*Fixation*	*Perm buffer*	*Result*
Flow	Human	PBMC	PMA	Cytofix	Perm I, II, or III	Weak induction observed
	Human	Whole Blood	PMA	Lyse/Fix	Perm III	Weak induction observed
	Human	PBMC	LPS or Anisomycin	Cytofix	Perm I, II, or III	Greater induction on monocytes than lymphocytes
WB	Human	HeLa	Anisomycin			38-42-kDa band induced
	Human	PBMC	Anisomycin			38-42-kDa band induced

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554655	Fixation Buffer	100 mL	(none)
557885	Perm/Wash Buffer I	125 mL	(none)
612288	Purified Mouse Anti-p38 MAPK (pT180/pY182)	50 µg	36/p38 (pT180/pY182)
558049	Lyse/Fix Buffer 5X	250 mL	(none)
612289	Purified Mouse Anti-p38 MAPK (pT180/pY182)	150 µg	36/p38 (pT180/pY182)
558052	Perm Buffer II	125 mL	(none)
558050	Perm Buffer III	125 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
560760	T Cell Kit Lyophilized Cells	10 Vial(s)	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
6. Please refer to www.regdocs.bd.com to access safety data sheets (SDS).
7. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

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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)

Perez OD, Mitchell D, Campos R, Gao GJ, Li L, Nolan GP. Multiparameter analysis of intracellular phosphoepitopes in immunophenotyped cell populations by flow cytometry. *Curr Protoc Cytom.* 2005; :6.20.1-6.20.22. (Clone-specific: Flow cytometry)

Suni MA, Maino VC. Flow cytometric analysis of cell signaling proteins. *Methods Mol Biol.* 2011; 717:155-169. (Clone-specific: Flow cytometry)

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)