

PE anti-p38 MAPK Phospho (Thr180/Tyr182) Antibody

Catalog# / Size	690203 / 25 tests 690204 / 100 tests
Clone	A16016A
Regulatory Status	RUO
Other Names	p38 α , Mitogen-activated protein kinase 14, MAPK 14, CSBP
Isotype	Mouse IgG1, κ
Description	<p>Mitogen activated protein kinases (MAPK) are a family of highly conserved intracellular kinases that transduce extracellular signals relayed by surface receptors or various types of damage. Three subfamilies exist in mammals, including ERK, JNK, and p38 kinases. Four p38 MAPK family members have been identified: p38a, p38b, p38g, and p38d. p38a is ubiquitously expressed usually at high levels, whereas p38b is expressed at lower levels. The expression patterns of p38g and p38d are more restricted. Most of the functions that are generally ascribed to p38 MAPKs refer to p38a, which is encoded by the MAPK14 gene. The p38 MAP kinase is activated by treatment of cells with proinflammatory cytokines (e.g. TNF and IL-1) or by exposure of cells to environmental stress (e.g. UV radiation and osmotic shock). This activation results in the phosphorylation of residues Thr180 and Tyr182. Over 100 proteins can be directly phosphorylated by p38a and a significant proportion of them are involved in the regulation of gene expression. In addition, the p38a pathway can control at different levels the production of extracellular signaling molecules, such as cytokines, chemokines, and growth factors.</p>

The p38a signaling pathway has dual role in tumorigenesis. During oncogene-induced tumor initiation and in the early response to carcinogens, p38a mainly acts as a tumor suppressor by maintaining cell homeostasis and eventually inducing cell death. However, p38a function is sometimes altered in the tumor cell so that it favors tumor progression. This might be due to changes in gene expression programs that accompany malignant cell transformation or could be driven by different stimuli available in the microenvironment.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Human p38 MAPK peptide phosphorylated at Thr 180 and Tyr182
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with PE under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is 5 μ L per million cells in 100 μ L staining volume or 5 μ L per 100 μ L of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	29kD isoform of p38a may show up with longer exposure or hybridization with higher concentration of primary antibody in some cell lines.

Product Citations

1. Meng L, *et al.* 2021. *Front Oncol.* 11:691705. [PubMed](#)
2. Carnevale J, *et al.* 2022. *Nature.* 609:174. [PubMed](#)
3. Scur M, *et al.* 2022. *Nat Commun.* 13:7272. [PubMed](#)

RRID

AB_2832849 (BioLegend Cat. No. 690203)
AB_2876743 (BioLegend Cat. No. 690204)

Antigen Details

Structure	390 amino acids, predicted molecular weight of p38 α is 41kD; molecular weight of other isoforms of p38 α range from 29kDa to 35kD.
Distribution	Cytoplasm, nucleus
Function	Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK14 is one of the four p38 MAPKs which play an important role in the cascades of cellular responses evoked by extracellular stimuli such as proinflammatory cytokines or physical stress leading to direct activation of transcription factors.
Interaction	Component of a signaling complex containing at least AKAP13, PKN1, MAPK14, ZAK and MAP2K3. Binds to a kinase interaction motif within the protein tyrosine phosphatase, PTPRR. Interacts with SPAG9 and GADD45A. Interacts with CDC25B, CDC25C, DUSP1, DUSP10, DUSP16, NP60, SUPT20H and TAB1. Interacts with casein kinase II subunits CSNK2A1 and CSNK2B. Interacts with PPM1D. Interacts with CDK5RAP3; recruits PPM1D to MAPK14 and may regulate its dephosphorylation.
Biology Area	Cell Biology, Signal Transduction
Molecular Family	Phospho-Proteins, Protein Kinases/Phosphatase
Antigen References	<ol style="list-style-type: none">1. Sosa MS, <i>et al.</i> 2011, <i>Clin Cancer Res.</i> 17:58502. Igea A & Nebreda AR. 2015, <i>Cancer Res.</i> 75:39973. Wagner EF & Nebreda AR. 2009, <i>Nat Rev Cancer.</i> 9:5374. Hui L, <i>et al.</i> 2007, <i>Cell cycle.</i> 6:24295. Bulavin DV & Fornace AJ Jr. 2004, <i>Adv Cancer Res.</i> 92:956. Gupta J, <i>et al.</i> 2014, <i>Cancer cell.</i> 25:4847. Otsuka M, <i>et al.</i> 2010, <i>Gastroenterology.</i> 138:1255
Gene ID	1432

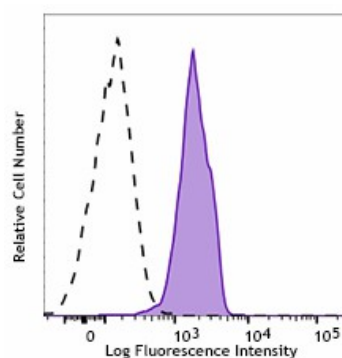
Related Protocols

[Intracellular Flow Cytometry Staining Protocol](#)

Other Formats

Purified anti-p38 MAPK Phospho (Thr180/Tyr182), PE anti-p38 MAPK Phospho (Thr180/Tyr182)

Product Data



Human peripheral blood lymphocytes were stimulated with (filled histogram) or without (open histogram) Cell Activation Cocktail without Brefeldin A (Cat No. 423302) for 15 minutes, fixed with Fixation Buffer, permeabilized with True-Phos™ Perm Buffer (Cat No. 425401), and intracellularly stained with anti-p38 MAPK Phospho (Thr180/Tyr182) (clone A16016A) PE.

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