

#7221

PathScan® Phospho-p38α MAPK (Thr180/Tyr182) Sandwich ELISA Antibody Pair

1 Kit (4 x 96 assays)

UniProt ID:
#Q16539

Entrez-Gene Id:
#1432



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For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Volume	Cap Color	Storage Temp
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Description

CST's PathScan® Phospho-p38α MAPK (Thr180/Tyr182) Sandwich ELISA Antibody Pair is offered as an alternative to our PathScan® Phospho-p38α MAPK (Thr180/Tyr182) Sandwich ELISA Kit #7140. Capture and Detection antibodies (100X stocks) and HRP-conjugated secondary antibody (1000X stock) are supplied. Sufficient reagents are provided for performing 4 x 96 well ELISAs. p38α MAPK Capture Antibody is coated in PBS overnight in a 96 well microplate. After blocking, cell lysates are added, followed by a Phospho-p38α MAPK (Thr180/Tyr182) Detection Antibody and HRP-conjugated secondary antibody. HRP substrate, TMB, is added for color development. The magnitude of the absorbance at 450 nm is proportional to the quantity of phospho-p38α MAPK (Thr180/Tyr182) protein.
*Antibodies in this kit are custom formulations specific to the kit.

Reagents not supplied

Phosphate Buffered Saline (PBS-20X) #9808 Phosphate Buffered Saline with Tween -20 (PBST-20X) #9809 Cell Lysis Buffer (10X) #9803 TMB Substrate #7004 STOP Solution #7002 Blocking Buffer-PBS+0.05% Tween-20, 1% BSA 96 Well Microplates** Microplate Reader ** Antibody Pairs have been validated on Corning® 96 Well Clear Polystyrene High Bind Stripwell™ Microplates (#2592) and Corning® 96 Well EIA/RIA Easy Wash™ Clear Flat Bottom Polystyrene High Bind Microplates (#3369).

Background

p38 MAP kinase (MAPK), also called RK (1) or CSBP (2), is the mammalian orthologue of the yeast HOG kinase that participates in a signaling cascade controlling cellular responses to cytokines and stress (1-4). Four isoforms of p38 MAPK, p38α, β, γ (also known as Erk6 or SAPK3), and δ (also known as SAPK4) have been identified. Similar to the SAPK/JNK pathway, p38 MAPK is activated by a variety of cellular stresses, including osmotic shock, inflammatory cytokines, lipopolysaccharide (LPS), UV light, and growth factors (1-5). MKK3, MKK6, and SEK activate p38 MAPK by phosphorylation at Thr180 and Tyr182. Activated p38 MAPK has been shown to phosphorylate and activate MAPKAP kinase 2 (3) and to phosphorylate the transcription factors ATF-2 (5), Max (6), and MEF2 (5-8). SB203580 (4-(4-fluorophenyl)-2-(4-methylsulfinylphenyl)-5-(4-pyridyl)-imidazole) is a selective inhibitor of p38 MAPK. This compound inhibits the activation of MAPKAP-2 by p38 MAPK and subsequent phosphorylation of HSP27 (9). SB203580 inhibits p38 MAPK catalytic activity by binding to the ATP-binding pocket, but does not inhibit phosphorylation of p38 MAPK by upstream kinases (10).

Background References

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2. Han, J. et al. (1994) *Science* 265, 808-11.
3. Lee, J.C. et al. (1994) *Nature* 372, 739-46.
4. Freshney, N.W. et al. (1994) *Cell* 78, 1039-49.
5. Raingeaud, J. et al. (1995) *J Biol Chem* 270, 7420-6.
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7. Zhao, M. et al. (1999) *Mol Cell Biol* 19, 21-30.
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Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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