



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at +4C
#7140

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

UniProt ID: #Q16539 Entrez-Gene Id: #1432

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

Product Includes	Product #	Quantity	Color	Storage Temp
TMB Substrate	7004	11 ml	Colorless	+4C
STOP Solution	7002	11 ml	Colorless	+4C
Sealing Tape	54503	2 ea		+4C
ELISA Wash Buffer (20X)	9801	25 ml	Colorless	+4C
Cell Lysis Buffer (10X)	9803	15 ml	Yellowish	-20C

Kit contents scale proportionally with size, except sealing tape.

Example: The V1 kit contains 5X the listed quantities above, but will exclude the sealing tape.

The microwell plate is supplied as 12 8-well modules - Each module is designed to break apart for 8 tests.

Description

CST's PathScan® Phospho-p38 γ MAP Kinase (Thr180/Tyr182) Sandwich ELISA Kit is a solid phase sandwich enzyme-linked immunosorbent assay (ELISA) that detects endogenous levels of phospho-p38 γ MAP kinase (Thr180/Tyr182) protein. A p38 γ MAP Kinase Antibody* has been coated onto the microwells. After incubation with cell lysates, p38 γ MAP kinase protein is captured by the coated antibody. Following extensive washing, Phospho-p38 MAPK (Thr180/Tyr182) mouse mAb* is added to detect the captured phospho-p38 γ MAP kinase protein. HRP-linked Anti-mouse Antibody (#7076) is then used to recognize the bound detection antibody. HRP substrate, TMB, is added to develop color. The magnitude of absorbance for this developed color is proportional to the quantity of phospho-p38 γ MAP kinase (Thr180/Tyr182) protein.

* Antibodies in kit are custom formulations specific to kit.

Specificity/Sensitivity

CST's PathScan® Phospho-p38 α MAP kinase (Thr180/Tyr182) Sandwich ELISA Kit detects endogenous levels of phospho-p38 α MAP kinase (Thr180/Tyr182) protein. Using this Sandwich ELISA Kit #7140, a significant induction of phospho-p38 α MAP kinase (Thr180/Tyr182) in NIH/3T3 cells treated with UV light is detected. However, levels of total p38 α MAP kinase protein (phospho and nonphospho) remain unchanged, as shown by Western analysis using p38 α MAP kinase Antibody #9218 (Figure 1). Both C6 and 293 cells treated either UV light or anisomycin show similar results (data not shown). This kit detects proteins from the indicated species, as determined through in-house testing, but may also detect homologous proteins from other species.

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, p38 α , 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 MAPKAPK-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

1. Rouse, J. et al. (1994) *Cell* 78, 1027-37.
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.
6. Zervos, A.S. et al. (1995) *Proc Natl Acad Sci U S A* 92, 10531-4.
7. Zhao, M. et al. (1999) *Mol Cell Biol* 19, 21-30.
8. Yang, S.H. et al. (1999) *Mol Cell Biol* 19, 4028-38.
9. Cuenda, A. et al. (1995) *FEBS Lett* 364, 229-33.

10. Kumar, S. et al. (1999) *Biochem Biophys Res Commun* 263, 825-31.
11. Emre, Y. et al. (2007) *Biochem J* 402, 271-8.
-

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

PathScan is a registered trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.

Revision 2

#7140

PathScan[®] Phospho-p38α MAPK (Thr180/Tyr182) Sandwich ELISA Kit

