



PathScan® Phospho-p44/42 MAPK (Thr202/Tyr204) Sandwich ELISA Kit

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1 Kit (96 assays)

Species Cross Reactivity:
H M R

UniProt ID:
#P27361, #P28482

Entrez-Gene Id:
#5595, #5594

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

Product Includes	Product #	Quantity	Color	Storage Temp
Phospho-p44/42 MAPK (T202/Y204) Rabbit Monoclonal Antibody Coated Microwells	99936	96 tests		+4C
p44/42 MAP Kinase Mouse Detection Monoclonal Antibody	13230	1 ea	Green (Lyophilized)	+4C
Anti-mouse IgG, HRP-linked Antibody (ELISA Formulated)	13304	1 ea	Red (Lyophilized)	+4C
Detection Antibody Diluent	13339	11 ml	Green	+4C
HRP Diluent	13515	11 ml	Red	+4C
TMB Substrate	7004	11 ml		+4C
STOP Solution	7002	11 ml		+4C
Sealing Tape	54503	2 ea		+4C
ELISA Wash Buffer (20X)	9801	25 ml		+4C
ELISA Sample Diluent	11083	25 ml	Blue	+4C
Cell Lysis Buffer (10X)	9803	15 ml		-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.

For the "C" and "V" kits, the supplied 96-well strip plate consists of twelve 8-well strips in a support frame. This enables custom plate configurations.

Description

The PathScan® Phospho-p44/42 MAPK (Thr202/Tyr204) Sandwich ELISA Kit is a solid phase sandwich enzyme-linked immunosorbent assay (ELISA) that detects endogenous levels of p44/42 MAPK when dually phosphorylated at Thr202/Tyr204 of p44 (Thr185/Tyr187 of p42), and singly phosphorylated at Thr202 of p44 (Thr185 of p42). A phospho-p44/42 MAPK rabbit mAb has been coated onto the microwells. After incubation with cell lysates, phospho-p44/42 MAPK (Thr202/Tyr204) is captured by the coated antibody. Following extensive washing, a p44/42 MAPK mouse detection mAb is added to detect the captured phospho-p44/42 MAPK protein. Anti-mouse IgG, HRP-linked antibody 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 p44/42 MAPK phosphorylated at Thr202/Tyr204.

*Antibodies in kit are custom formulations specific to kit.

Specificity/Sensitivity

PathScan® Phospho-p44/42 MAPK (Thr202/Tyr204) Sandwich ELISA Kit #7177 detects endogenous levels of phospho-p44/42 MAPK when phosphorylated at Thr202/Tyr204 in human and mouse cells, as shown in Figure 1. This kit sensitivity is shown in Figure 2. This kit detects proteins from the indicated species, as determined through in-house testing, but may also detect homologous proteins from other species.

Background

Mitogen-activated protein kinases (MAPKs) are a widely conserved family of serine/threonine protein kinases involved in many cellular programs, such as cell proliferation, differentiation, motility, and death. The p44/42 MAPK (Erk1/2) signaling pathway can be activated in response to a diverse range of extracellular stimuli, including mitogens, growth factors, and cytokines (1-3), and research investigators consider it an important target in the diagnosis and treatment of cancer (4). Upon stimulation, a sequential three-part protein kinase cascade is initiated, consisting of a MAP kinase kinase kinase (MAPKKK or MAP3K), a MAP kinase kinase (MAPKK or MAP2K), and a MAP kinase (MAPK). Multiple p44/42 MAP3Ks have been identified, including members of the Raf family, as well as Mos and Tpl2/COT. MEK1 and MEK2 are the primary MAPKKs in this pathway (5,6). MEK1 and MEK2 activate p44 and p42 through phosphorylation of activation loop residues Thr202/Tyr204 and Thr185/Tyr187, respectively. Several downstream targets of p44/42 have been identified, including p90RSK (7) and the transcription factor Elk-1 (8,9). p44/42 are negatively regulated by a family of dual-specificity (Thr/Tyr) MAPK phosphatases, known as DUSPs or MKPs (10), along with MEK inhibitors, such as U0126 and PD98059.

Store at +4C
#7177

Background References

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