

## Product datasheet

# p38 MAPK alpha ELISA Kit ab221012

SimpleStep ELISA

5 Images

### Overview

**Product name** p38 MAPK alpha ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
HeLa extract	6			9.2%

Inter-assay

Sample	n	Mean	SD	CV%
HeLa extract	3			6.4%

**Sample type** Cell Lysate, Tissue Homogenate

**Assay type** Semi-quantitative

**Sensitivity** 300 pg/ml

**Range** 0.781 ng/ml - 100 ng/ml

**Assay time** 1h 1m

**Assay duration** One step assay

**Species reactivity** **Reacts with:** Mouse, Human

**Predicted to work with:** Rat

**Product overview**

p38 MAPK alpha ELISA Kit ([ab176650](#)) has been re-developed with new capture and detector antibodies. This new kit has the same name but a different product number (ab221012). We have identified new recombinant monoclonal antibodies to use in the SimpleStep ELISA platform that provide a higher sensitivity when quantifying p38 MAPK $\alpha$  protein in Human and mouse cells.

Abcam's p38 MAPK $\alpha$  *in vitro* SimpleStep ELISA™ (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of p38 MAPK $\alpha$  protein in Human and mouse cells.

The SimpleStep ELISA™ employs an affinity tag labeled capture antibody and a reporter

conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

**Notes** Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances. It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

**Platform** Microplate

### Properties

**Storage instructions** Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Wash Buffer PT	1 x 20ml
50X Cell Extraction Enhancer Solution	1 x 1ml
5X Cell Extraction Buffer PTR	1 x 12ml
Lyophilized p38 MAPK alpha Control Lysate	1 vial
p38 MAPK alpha (Total) Capture Antibody	1 x 3ml
p38 MAPK alpha (Total) Detector Antibody	1 x 3ml
Plate Seal	1 unit
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Substrate	1 x 12ml

**Function** Responds to activation by environmental stress, pro-inflammatory cytokines and lipopolysaccharide (LPS) by phosphorylating a number of transcription factors, such as ELK1 and ATF2 and several downstream kinases, such as MAPKAPK2 and MAPKAPK5. Plays a critical role in the production of some cytokines, for example IL-6. May play a role in stabilization of EPO mRNA during hypoxic stress. Isoform Mxi2 activation is stimulated by mitogens and oxidative stress and only poorly phosphorylates ELK1 and ATF2. Isoform Expip may play a role in the early onset of apoptosis.

**Tissue specificity** Brain, heart, placenta, pancreas and skeletal muscle. Expressed to a lesser extent in lung, liver and kidney.

## Sequence similarities

Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MAP kinase subfamily.

Contains 1 protein kinase domain.

## Domain

The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.

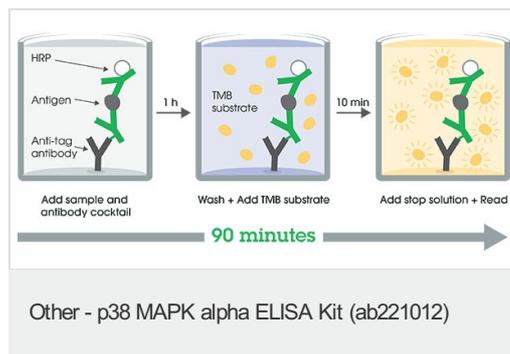
## Post-translational modifications

Dually phosphorylated on Thr-180 and Tyr-182, which activates the enzyme. Phosphorylated upon DNA damage, probably by ATM or ATR.

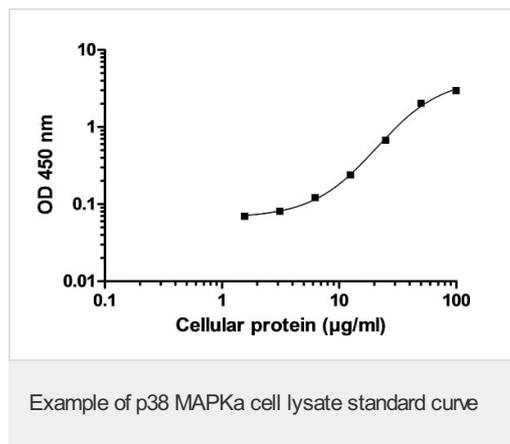
## Cellular localization

Cytoplasm. Nucleus.

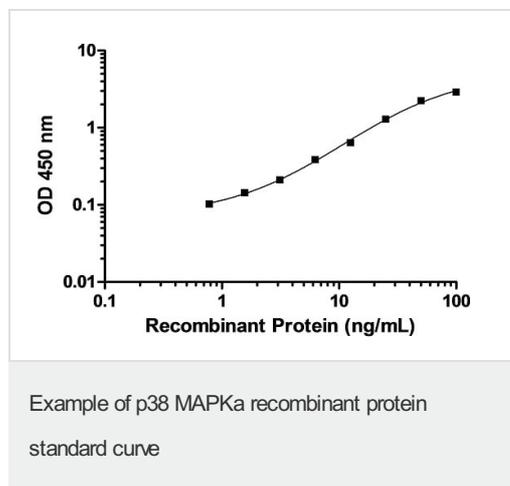
## Images



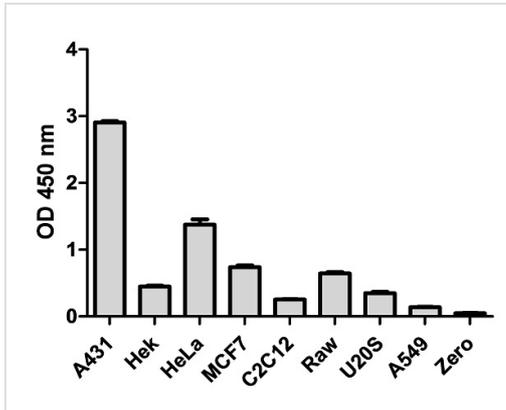
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Raw data values are fitted to a four-parameter, variable slope curve (+/- SD).

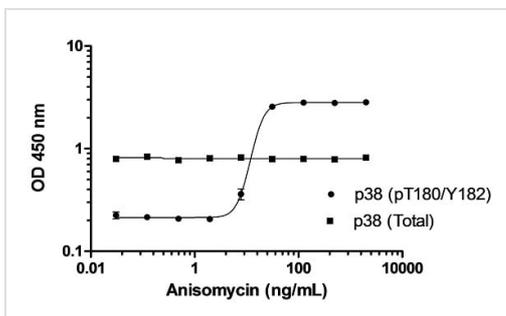


Raw data values are fitted to a four-parameter, variable slope curve (+/- SD).



Data from triplicate measurements (mean +/- SD) are plotted and compared to 1X Cell Extraction Buffer PTR (zero).

Cell line analysis for Total p38 MAPKα from 200 µg/mL preparations of cell extracts



HeLa cells were cultured in 96-well tissue culture plates and treated (15 min) with a dose-range of anisomycin before cell lysis. Data from quadruplicate measurements of p38 MAPKα (pT180/Y182) are plotted and compared against Total p38 MAPKα protein levels.

Induction of p38 MAPKα (pT180/Y182) phosphorylation in HeLa cells in response to anisomycin treatment

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