Datasheet for ABIN1981724

MEK1 ELISA Kit

4 Images

Go to Product page

Overview

Quantity:	96 tests
Target:	MEK1 (MAP2K1)
Binding Specificity:	pSer217, pSer221, total
Reactivity:	Human, Rat, Mouse
Method Type:	Sandwich ELISA
Application:	ELISA

Product Details

Purpose:	Human/Mouse/Rat Phospho-MEK1 (S217/S221) and Total MEK1 ELISA Kit. This assay semi-quantitatively measures phophorylated Mek (Ser217/S221) and Total Mek in lysate samples.
Sample Type:	Cell Lysate, Tissue Lysate
Analytical Method:	Semi-Quantitative
Detection Method:	Colorimetric
Specificity:	The antibody pair provided in this kit recognizes human, mouse and rat Phospho-Mek1 (Ser217/221) + pan Mek.
Characteristics:	• Simultaneously measure Phosphorylated protein and pan protein in one experiment (for normalization purpose) • Screen numerous different cell lysates without performing a Western Blot analysis • Minimal hands-on time, convenient, and non-radioactive material
Components:	• Pre-Coated 96-well Strip Microplate • Wash Buffer

Product Details

- Anti-Phospho Antibody
- Anti-Pan Antibody
- HRP-Conjugated Secondary Antibody
- Streptavidin-Conjugated HRP
- Assay Diluent
- TMB One-Step Substrate
- Stop Solution
- Lysis Buffer
- Positive Control Sample

Material not included:

- Distilled or deionized water
- 100 mL and 1 liter graduated cylinders
- Tubes to prepare sample dilutions
- Protease and Phosphatase inhibitors
- Precision pipettes to deliver 2 µL to 1 mL volumes
- Adjustable 1-25 mL pipettes for reagent preparation
- Benchtop rocker or shaker
- Microplate reader capable of measuring absorbance at 450 nm

Target Details

Target:	MEK1 (MAP2K1)
Alternative Name:	MEK1 (MAP2K1 Products)
Background:	MEK1 p-S217/S221
Gene ID:	5604
UniProt:	Q02750
Pathways:	MAPK Signaling, RTK Signaling, Interferon-gamma Pathway, Fc-epsilon Receptor Signaling Pathway, Neurotrophin Signaling Pathway, Activation of Innate immune Response, Toll-Like Receptors Cascades, Autophagy, Signaling of Hepatocyte Growth Factor Receptor, BCR Signaling

Application Details

Sample Volume:	100 µL
Plate:	Pre-coated
Protocol:	1. Prepare all reagents and samples as instructed in the manual. 2. Add 100 µL of sample or positive control to each well.

3. Incubate 2.5 h at RT or O/N at 4 °C.
4. Add 100 µL of prepared primary antibody to each well.
5. Incubate 1 h at RT.
6. Add 100 µL of prepared 1X HRP-Streptavidin to each well.
7. Incubate 1 h at RT.
8. Add 100 µL of TMB One-Step Substrate Reagent to each well.
9. Incubate 30 min at RT.
10. Add 50 µL of Stop Solution to each well.
11. Read at 450 nm immediately.

Reagent Preparation:

1. Bring all reagents and samples to room temperature (18 - 25 °C) before use.

2. Item E, Assay Diluent should be diluted 5-fold with deionized or distilled water before use.

3. Preparation of Positive Control: Briefly spin the Positive Control vial of Item K. Add 500 µL 1x Assay Diluent (Item E, Assay Phospho-Mek1 (Ser217/221) and pan Mek1 ELISA Kit Protocol 6 Diluent should be diluted 5-fold with deionized or distilled water before use) into Item K vial to prepare a Positive Control (P-1) Solution (See i. Positive Control of part IX.for a typical result in page 9). Dissolve the powder thoroughly by a gentle mix (it can be removed by centrifuge if any precipitate in the solution is found). Pipette 270 µL 1x Assay Diluent into each tube. Use the Positive Control (1) to produce a dilution series (shown below). Mix each tube thoroughly before the next transfer. 1x Assay Diluent serves as the background.

4. If the Wash Concentrate (20x) (Item B) contains visible crystals, warm to room temperature and mix gently until dissolved. Dilute 20 mL of Wash Buffer Concentrate into deionized or distilled water to yield 400 mL of 1x Wash Buffer.

5. Briefly spin the detection antibody (Item C-1 or Item C-2) before use. Add 100 µL of 1x Assay Diluent into the vial to prepare a detection antibody concentrate. Pipette up and down to mix gently (the concentrate can be stored at 4 °C for 5 days or at - 70 °C for one month). The anti-phospho-Mek1 (Ser217/221) or anti-pan-Mek1 antibody should be diluted 55-fold with 1x Assay Diuent and used in step 4 of Part VII Assay Procedure. P-1 P-2 P-3 P-4 0 30 µL Positive Control powder 500 µL 1x Assay Diluent 30µl 30 µL Phospho-Mek1 (Ser217/221) and pan Mek1 ELISA Kit Protocol 7

6. Briefly spin the HRP-conjugated anti-rabbit IgG (Item D-1) before use. Pipette up and down to mix gently. HRP-conjugated anti-rabbit IgG concentrate should be diluted 500-fold with 1x Assay Diuent. For example: Briefly spin the vial (Item D-1) and pipette up and down to mix gently. Add 10 µL of HRP-conjugated anti- rabbit IgG concentrate into a tube with 5 mL 1x AssayDiluent to prepare a 500-fold diluted HRP-conjugated anti-rabbit IgG solution.

7. Cell Lysate Buffer should be diluted 2-fold with deionized or distilled water before use (recommend to add protease and phosphatase inhibitors). VII.

Application Details

Sample Preparation:	Cell lysates - Rinse cells with PBS, making sure to remove any remaining PBS before adding the Cell Lysate Buffer. Solubilize cells at 4 x 107 cells/mL in 1x Cell Lysate Buffer (we recommend adding protease and phosphatase inhibitors to Cell Lysate Buffer prior to sample preparation). Pipette up and down to resuspend and incubate the lysates with shaking at 2 - 8° C for 30 minutes. Microcentrifuge at 13,000 rpm for 10 minutes at 2 - 8° C, and Phospho-Mek1 (Ser217/221) and pan Mek1 ELISA Kit Protocol 5 transfer the supernates into a clean test tube. Lysates should be used immediately or aliquoted and stored at -70 °C. Avoid repeated freeze-thaw cycles. Thawed lysates should be kept on ice prior to use. For the initial experiment, we recommend to do a serial dilution testing such as 5-fold and 50-fold dilution for your cell lysates with Assay Diluent (Item E) before use. Note: The fold dilution of sample used depends on the abundance of phosphorylated proteins and should be determined empiricallys. More of the sample can be used if signals are too weak. If signals are too strong, the sample can be diluted further. Cell Lysate Buffer should be diluted 2-fold with deionized or distilled water before use (recommend to add protease and phosphatase inhibitors).
Assay Procedure:	1. Bring all reagents to room temperature (18 - 25 °C) before use. It is recommended that all samples or Positive Control should be run at least in duplicate. 2. Add 100 µL of each sample or positive control into appropriate wells. Cover well with plate holder and incubate for 2.5 hours at room temperature or over night at 4 °C with shaking. 3. Discard the solution and wash 4 times with 1x Wash Solution. Wash by filling each well with Wash Buffer (300 µL) using a multi-channel pipette or autowasher. Complete removal of liquid at each step is essential to good performance. After the Phospho-Mek1 (Ser217/221) and pan Mek1 ELISA Kit Protocol 8 last wash, remove any remaining Wash Buffer by aspirating or decanting. Invert the plate and blot it against clean paper towels. 4. Add 100 µL of prepared 1x rabbit anti-phospho-Mek1 (Ser217/221) antibody or 1x rabbit anti-pan-Mek1 (Reagent Preparation step 5) to appropriate wells. Incubate for 1 hour at room temperature with shaking. 5. Discard the solution. Repeat the wash as in step3. 6. Add 100 µL of prepared 1X HRP-conjugated anti-rabbit IgG to corresponding well. Incubate for over night at 4 °C with shaking. 7. Discard the solution. Repeat the wash as in step3. 8. Add 100 µL of TMB One-Step Substrate Reagent (Item H) to each well. Incubate for 30 minutes at room temperature in the dark with shaking. 9. Add 50 µL of Stop Solution (Item I) to each well. Read at 450 nm immediately.
Calculation of Results:	ELISA data analysis: Average the duplicate readings for each sample or positive.

Application Details

	i. Positive Control Hela cells were treated with TPA at 37 °C for 15 min. Solubilize cells at 4 x 107 cells/mL in Cell Lysate Buffer. Serial dilutions of cell lysates were analyzed in this ELISA. Please see step 3 of Part VI Reagent Preparation for detail. Phospho-Mek1 (Ser217/221) and pan Mek1 ELISA Kit Protocol 10 Assay Diluent P-1 P-2 P-3 P-4 Control O D = 4 5 0 n m 1.0 0.3 - - - - - -- Positive control dilution series ii. TPA Stimulation of Hela Cell Lines Hela cells were treated or untreated with TPA for 15 min. Cell lysates were analyzed using this phosphoELISA and Western Blot. A). ELISA Anti-Mek1 (Ser217/221) Anti-pan Mek1 O D =4 50 n m 0.0 0.5 1.0 1.5 2.0 TPA Treated Hela Untreated Hela Phospho-Mek1 (Ser217/221) and pan Mek1 ELISA Kit Protocol 11 B). Western-Blot Analysis TPA 15 0 15 0 (Min) Anti-phospho-Mek1 (Ser217/221) Anti-pan Mek1 X
Restrictions:	For Research Use only

Handling

Handling Advice:	Avoid repeated freeze- thaw cycles.
Storage:	-20 °C
Storage Comment:	Upon receipt, the kit should be stored at -20 °C. Please use within 6 months from the date of shipment. After initial use, Wash Buffer Concentrate (Item B), Assay Diluent (Item E), TMB One-Step Substrate Reagent (Item H), HRP-Streptavidin (Item G), Stop Solution (Item I) and Cell Lysate Buffer (Item J) should be stored at 4 °C to avoid repeated freeze-thaw cycles. Return unused wells to the pouch containing desiccant pack, reseal along entire edge and store at -20 °C. Reconstituted Positive Control (Item K) should be stored at -70 °C.
Expiry Date:	6 months

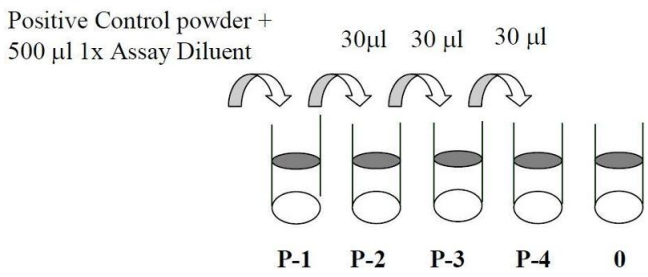

Image 1. This picture shows the preparation of the positive control.

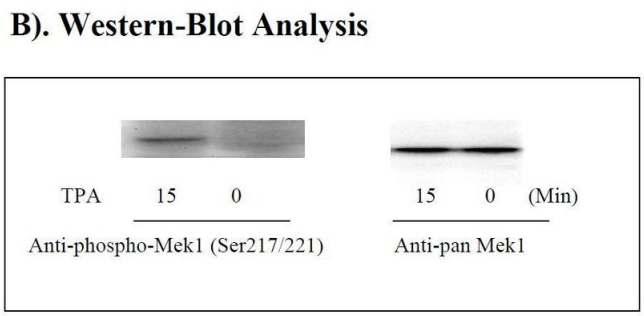

Image 2.

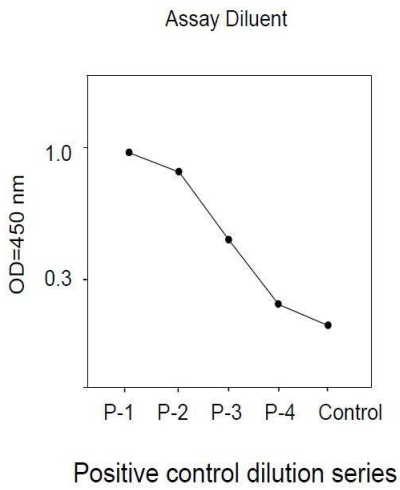

Image 3.

Please check the product details page for more images. Overall 4 images are available for ABIN1981724.