

## DESCRIPTION

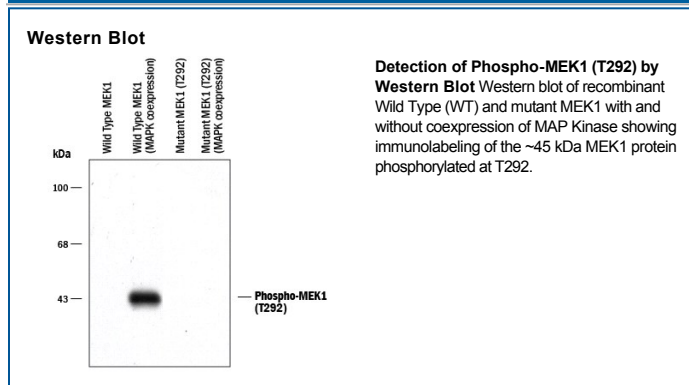
|                           |   |
|---------------------------|---|
| <b>Species Reactivity</b> | Human   |
| <b>Specificity</b>        | Human ~45 kDa MEK1 phosphorylated at T292   |
| <b>Source</b>             | Polyclonal Rabbit IgG   |
| <b>Purification</b>       | Antigen Affinity-purified   |
| <b>Immunogen</b>          | Phosphopeptide corresponding to amino acid residues surrounding human phospho-T292 of MEK1                            |
| <b>Formulation</b>        | 100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details. |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

|                     | Recommended Concentration | Sample    |
|---------------------|---------------------------|-----------|
| <b>Western Blot</b> | 1:1000 dilution           | See Below |

## DATA



## PREPARATION AND STORAGE

|                                |   |
|--------------------------------|---|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.                |

## BACKGROUND

Human MEK1 (MAPK/ERK kinase 1) is a 45 kDa member of the MAP kinase kinase subfamily of the Ser/Thr protein kinase family of enzymes. It is 393 amino acids (aa) in length and contains one ERK interaction (aa 1 - 32) and catalytic site (aa 68 - 361). There is one alternate splice form that shows a 26 aa deletion between aa 471 - 548. MEK1 is part of the MAP kinase pathway that is activated in response to growth factors and integrins. Two signal transduction pathways converge on MEK1. Mitogens activate Ras, which activates Raf, which activates MEK1. Integrins activate Rac, which activates PAK, which also activates MEK1. Raf activates MEK1 by phosphorylating S218 and S222 on MEK1. Alternatively, PAK indirectly activates MEK1 by phosphorylating MEK1 on S298, which promotes the Raf phosphorylation of S218 and S222. Once activated, MEK1 phosphorylates and activates ERK1/2. In a negative feedback loop, activated ERK can phosphorylate MEK1 on T292 and T386. This phosphorylation of T292 will interfere with PAK phosphorylation of MEK1 on S298. ERK-mediated phosphorylation of MEK1 at T386 may also interfere with PAK phosphorylation of MEK1.

### References:

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- Mansour, S.J. et al. (1994) J. Biochem. 116:304.
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