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# 12-4090: Phospho-MAPKAPK2 (Thr334) (Clone: H2) rabbit mAb

| | |
|---|---|
| **Clonality :** | Monoclonal |
| **Clone Name :** | MAPKAPK2T334-H2 |
| **Application :** | FACS,WB |
| **Reactivity :** | Human, Mouse |
| **Conjugate :** | Unconjugated |
| **Format :** | Purified |
| **Alternative Name :** | MAP kinase-activated protein kinase 2, MAPK-activated protein kinase 2, MAPKAP kinase 2, MAPKAPK-2, MK2 |
| **Isotype :** | Rabbit IgG1k |
| **Immunogen Information :** | A synthetic phospho-peptide corresponding to residues surrounding Thr334 of human phospho MAPKAPK-2. |

## Description

Mitogen-activated protein kinase (MAPK)-activated protein kinase 2 (phospho MAPKAPK-2 or phospho MK2) is phosphorylated and activated by the p38 MAPK and it is known to transduce a range of extracellular signals that result in inflammatory response, cell division and differentiation, apoptosis, and cell motility (1,2). p38 MAPK through MK2 regulates biosynthesis of tumor necrosis factor alpha (TNF alpha) and other cytokines (3). In addition, MK2 is involved with phosphorylating of heat shock protein 27 (Hsp27)(4), pointing to prominent role for MK2 in cancer promotion. MK2 is also activated after DNA damage (5,6), resulting in cell cycle arrest such that cells have the capacity to repair their DNA and continue to proliferate. p38 MAPK phosphorylate MK2 in response to stress stimuli at Thr222, Ser272 and Thr334 (7). Thr334 phosphorylation serves as a switch for phospho MAPKAPK-2 nuclear import and export. In resting cells, p38 MAPK and MK2 form a complex in the nucleus (7). Cellular stress causes the phosphorylation of p38 MAPK by upstream kinases, such as MAPK kinase 3. The activated p38 MAPK then phosphorylates MK2 at Thr222, Ser272, and/or Thr334. When activated at Thr334, both p38 MAPK and MK2 translocate to the cytoplasm. Phosphorylation at Thr222 within the activation loop is crucial for MK2-dependent activation of several target substrates, including enzymes, proteins that regulate cytoskeleton motility, mRNA-binding proteins, and regulators of the cell cycle and apoptosis (8).

## Product Info

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|---|---|
| **Amount :** | 20 µl / 200 µl |
| **Content :** | 1X PBS, 0.02% NaN3, 50% Glycerol, 0.1% BSA |
| **Storage condition :** | Store at -20°C. Avoid repeated freeze and thaw cycles. |

## Application Note

1Ã‚µg/mL - 0.001Ã‚µg/mL. It is recommended that the reagent be titrated for optimal performance for each application. See product image legends for additional information.(0.5mg/ml, more than 200 western blots)

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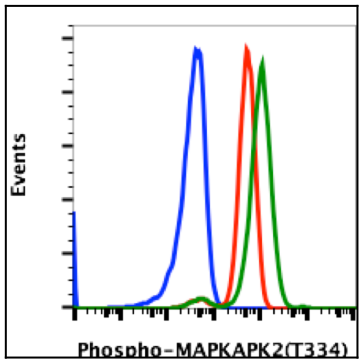


Fig-1: Flow cytometric analysis of U937 cells secondary antibody only negative control (blue) or untreated (red) or treated with CalA (green) using Phospho-MAPKAPK2 (T334) antibody MAPKAPK2T334-H2 0.1 µg/mL.

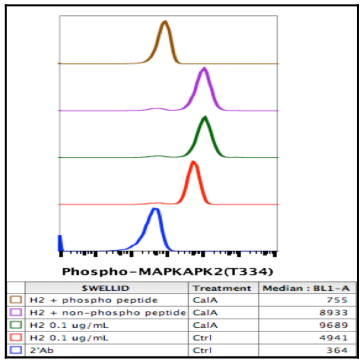


Fig 2 : Flow cytometric analysis of U937 cells secondary antibody only negative control (blue) or untreated (red) treated with CalA (green) with 10X non-phospho peptide (violet) or phospho-peptide (brown) using Phospho-MAPKAPK2 (T334) antibody MAPKAPK2T334-H2 0.1 µg/mL.

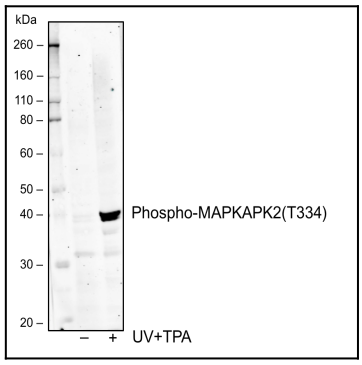


Fig-3: Western blot analysis of Hela cell extract untreated or treated with UV +TPA using 0.05 µg/mL Phospho-MAPKAPK2 (Thr334) antibody MAPKAPK2T334-H2.

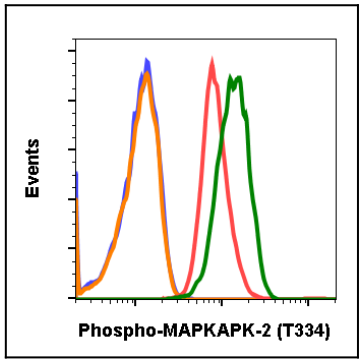


Fig-4: Flow cytometric analysis of 3T3 cells secondary antibody only (blue) or untreated with 0.1 µg/mL of isotype control (orange) or untreated (red) or UV and PMA-treated (green) using Phospho-MAPKAPK2 (Thr334) antibody MAPKAPK2T334-H2.

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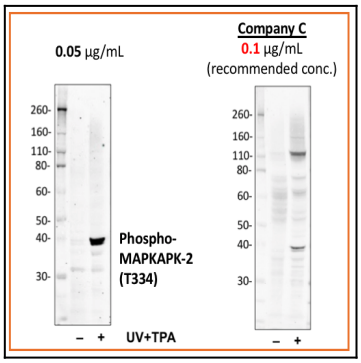


Fig-5: Western blot analysis of HeLa cell extract untreated or treated with UV+TPA using 0.05 µg/mL Phospho-MAPKAPK-2 (Thr334) antibody MAPKAPK2T334-H2 or Company C antibody at 0.1 µg/mL (manufacturer's recommended concentration).