

# Anti-MPK6 Antibody

Catalog # AP54167

## Product Information

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|-------------------|------------------------|
| Application       | WB                     |
| Primary Accession | <a href="#">Q39026</a> |
| Reactivity        | Arabidopsis thaliana   |
| Host              | Rabbit                 |
| Clonality         | Polyclonal             |
| Calculated MW     | 45058                  |

## Additional Information

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|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Gene ID            | 818982                                                                                                                                             |
| Other Names        | Mitogen-activated protein kinase 6; PROSITE-ProRule annotation; AtMPK6; MAP kinase 6                                                               |
| Target/Specificity | KLH-conjugated synthetic peptide encompassing a sequence within the N-term region of arabidopsis thaliana MPK6. The exact sequence is proprietary. |
| Dilution           | WB~~1/500 - 1/2000                                                                                                                                 |
| Format             | Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.                                          |
| Storage            | Store at -20 °C.Stable for 12 months from date of receipt                                                                                          |

## Protein Information

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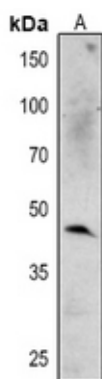
|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Name     | MPK6 {ECO:0000303   PubMed:8282107}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Function | Mitogen-activated protein kinase (MAPK) which regulates abscisic acid (ABA) responses in a MAPKKK20-MKK5-MPK6 cascade involved in root growth (e.g. root cell division and elongation) and stomatal response (PubMed: <a href="#">27913741</a> ). Involved in oxidative stress-mediated signaling cascade (such as ozone). Involved in the innate immune MAP kinase signaling cascade (MEKK1, MKK4/MKK5 and MPK3/MPK6) downstream of bacterial flagellin receptor FLS2. May be involved in hypersensitive response (HR)-mediated signaling cascade by modulating LIP5 phosphorylation and subsequent multivesicular bodies (MVBs) trafficking. May phosphorylate regulators of WRKY transcription factors. Phosphorylates 1-aminocyclopropane-1-carboxylic acid synthases (ACS2 and ACS6) and may be involved in the regulation of bacterial elicitor flagellin-induced ethylene production. Regulates locally gene-mediated and basal resistance response to certain pathogens. May be involved in the cold and salinity stress-mediated MAP kinase signaling cascade |

(MEKK1, MKK1/MKK2 and MPK4/MPK6). MKK1-MPK6 module mediates abscisic acid (ABA)-dependent CAT1 expression with H<sub>2</sub>O<sub>2</sub> production and response to drought and salt stress. MKK1-MPK6 module is also involved in sugar signaling during the process of seed germination. MKK3-MPK6 module plays an important role in the jasmonate signal transduction pathway through the negative regulation of MYC2/JIN1 expression. MKK9-MPK3/MPK6 module phosphorylates and activates EIN3, leading to the promotion of EIN3-mediated transcription in ethylene signaling. MPK3/MPK6 cascade regulates camalexin synthesis through transcriptional regulation of the biosynthetic genes after pathogen infection. MKK9-MPK6 module positively regulates leaf senescence. YDA- MKK4/MKK5-MPK3/MPK6 module regulates stomatal cell fate before the guard mother cell (GMC) is specified. When activated, reinforces the feedback loop by phosphorylating BASL, and inhibits stomatal fate by phosphorylating SPCH (PubMed:[25843888](#)). This MAPK cascade also functions downstream of the ER receptor in regulating coordinated local cell proliferation, which shapes the morphology of plant organs. Mediates also phosphorylation of CARK3/PTI1-4 and OXI1 to regulate their signaling cascades in response to abiotic stresses (PubMed:[21276203](#)).

### Cellular Location

Cytoplasm. Nucleus. Cytoplasm, cell cortex. Note=Translocated into the nucleus in response to phosphorylation (Probable). Recruited by BASL at the cell cortex in a polarized manner (PubMed:[25843888](#)) Mobility in stomatal lineage ground cells (SLGCs) is triggered by BASL, increased in response to hydrogen peroxide H<sub>2</sub>O<sub>2</sub>, but repressed by U0126 (PubMed:[27746029](#)). {ECO:0000269|PubMed:[25843888](#), ECO:0000269|PubMed:[27746029](#), ECO:0000305}

### Images



Western blot analysis of MPK6 expression in Arabidopsis thaliana (A) whole cell lysates. (Predicted band size: 45 kD; Observed band size: 45 kD)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.