

MAPK14 Antibody / Mitogen-activated protein kinase 14 / p38 alpha (FY12762)

Catalog No.	Formulation	Size
FY12762	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q16539
Applications	Flow Cytometry : 1-3ug/million cells Immunoprecipitation : 2-4ug/500ug of lysate Immunohistochemistry : 2-5ug/ml Western Blot : 0.25-0.5ug/ml
Limitations	This MAPK14 antibody is available for research use only.

Description

MAPK14 antibody detects Mitogen-activated protein kinase 14 (also known as p38 alpha), a serine/threonine kinase that plays a pivotal role in cellular responses to stress stimuli and proinflammatory cytokines. Encoded by the MAPK14 gene on chromosome 6p21.31, this kinase is part of the MAP kinase family, which transduces extracellular signals into transcriptional and post-translational responses controlling cell proliferation, differentiation, and survival. p38 alpha is activated by environmental stressors such as UV irradiation, heat shock, osmotic stress, and inflammatory signals, leading to the phosphorylation of numerous substrates that regulate gene expression and apoptosis.

MAPK14 is activated by upstream kinases MKK3 and MKK6 through dual phosphorylation of the conserved threonine-glycine-tyrosine (TGY) motif in its activation loop. Once activated, p38 alpha phosphorylates a wide array of targets including transcription factors (ATF2, MEF2C, ELK1), kinases (MAPKAPK2/3), and cell-cycle regulators, influencing inflammatory cytokine production, cell differentiation, and immune activation. It also regulates mRNA stability through the phosphorylation of RNA-binding proteins. In immune cells, p38 alpha drives the production of interleukin-6 and tumor necrosis factor-alpha, linking it to inflammatory diseases and autoimmune pathogenesis.

The MAPK14 antibody is widely used in molecular biology, inflammation, and cancer research to assess kinase expression, activation, and signal transduction. Western blot analysis typically identifies a 43 kilodalton band corresponding to MAPK14, while immunofluorescence and immunohistochemistry reveal cytoplasmic and nuclear staining depending on activation state. This antibody allows for monitoring of stress kinase activation and signaling pathway dynamics in diverse cell types.

MAPK14 is also implicated in tumor biology, as it influences cell migration, angiogenesis, and resistance to chemotherapy. Its inhibition has therapeutic potential in cancer, arthritis, and neuroinflammation. The MAPK14 antibody provides a reliable tool for studying stress-activated kinase pathways, cytokine regulation, and drug mechanism of action. NSJ Bioreagents supplies this antibody validated for western blotting, immunohistochemistry, and immunofluorescence to ensure consistent and specific detection in research applications.

Application Notes

Optimal dilution of the MAPK14 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human p38 alpha/MAPK14 was used as the immunogen for the MAPK14 antibody.

Storage

After reconstitution, the MAPK14 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.