# Data Sheet (Cat.No.TMAY-01117)

TargetMol

## Anti-JNK2 Antibody (2U766)

### Product Details

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| Ig Type: | Rabbit IgG |
| Reactivity: | Human |
| Conjugation: | Unconjugated |
| Clone: | 2U766 |
| Purification: | Protein A |

### Applications

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| Verified Activity: | 1. Immunofluorescence staining of Human MAPK9 in Hela cells. Cells were fixed with 4% PFA, permeabilzed with 1% Triton X-100 in PBS, blocked with 10% serum, and incubated with Rabbit anti-Human MAPK9 monoclonal antibody (1:300) at 37°C 1 hour. Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-rabbit IgG secondary antibody (green) and counterstained with DAPI (blue). Positive staining was localized to cytoplasm and Nucleus.<br>2. Immunochemical staining of human MAPK9 in human kidney with rabbit monoclonal antibody (1:1000, formalin-fixed paraffin embedded sections).<br>3. Immunochemical staining of human MAPK9 in human brain with rabbit mnoclonal antibody (1:1000, formalin-fixed paraffin embedded sections).<br>4. Anti-MAPK9 rabbit monoclonal antibody at 1:500 dilution.<br>-Lane A: Jurkat Whole Cell lysate.<br>-Lysates/proteins at 30 µg per lane.<br>-Secondary<br>-Goat Anti-Rabbit IgG H&L (Dylight800) at 1/10000 dilution.<br>-Developed using the Odyssey technique.<br>-Performed under reducing conditions.<br>-Predicted band size:48 kDa.<br>-Observed band size:54 kDa(We are unsure as to the identity of these extra bands.)<br>5. MAPK9 was immunoprecipitated using:<br>-Lane A:0.5 mg HepG2 Whole Cell Lysate.<br>-Lane B:0.5 mg Hela Whole Cell Lysate.<br>-Lane C:0.5 mg Jurkat Whole Cell Lysate.<br>-Lane D:0.5 mg MCF-7 Whole Cell Lysate<br>-0.5 µL anti-MAPK9 rabbit monoclonal antibody and 15 µl of 50 % Protein G agarose.<br>-Primary antibody:<br>-Anti-MAPK9 rabbit monoclonal antibody, at 1:500 dilution.<br>-Secondary antibody:<br>-Dylight 800-labeled antibody to rabbit IgG (H+L), at 1:5000 dilution.<br>-Developed using the odyssey technique.<br>-Performed under reducing conditions.<br>-Predicted band size: 44 kDa.<br>-Observed band size: 44 kDa |

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| Application: | ELISA,ICC/IF,IHC-P,IP,WB |
| Recommended | WB: 1:500-1:1000; ELISA: 1:25000-1:50000; IHC-P: 1:500-1:2500; ICC-IF: 1:100-1:500; IP: 1-2 μL/mg of lysate |

## Properties

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| Stability & Storage: | Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free. |
| Shipping: | Shipping with blue ice. |

## Antigen Details

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| Immunogen: | Recombinant Protein: Human JNK2 / MAPK9 protein (TMPY-04550) |
| Antigen Species: | Human |
| Synonyms: | JNK2ALPHA;p54a;SAPK1a;JNK2β;SAPK;JNK2A;JNK2α;JNK2BETA;JNK2;JNK2B;JNK-55;PRKM9; mitogen-activated protein kinase 9;p54aSAPK |

## Research Background

Mitogen-activated protein kinase 9 (MAPK9), also well known as c-Jun N-terminal kinase (JNK2), is a member of the MAP kinase subfamily belonging to the protein kinase superfamily. MAPK9 responds to activation by environmental stress and pro-inflammatory cytokines by phosphorylating some transcription factors, such as c-Jun and ATF2. The crystal structure of human JNK2 complexed with an indazole inhibitor by applying a high-throughput protein engineering and surface-site mutagenesis approach. A novel conformation of the activation loop is observed, which is not compatible with its phosphorylation by upstream kinases. This activation inhibitory conformation of JNK2 is stabilized by the MAP kinase insert that interacts with the activation loop in an induced-fit manner. It suggests that the MAP kinase insert of JNK2 plays a role in the regulation of JNK2 activation, possibly by interacting with intracellular binding partners. JNK2 deficiency leads to reduced c-Jun degradation, thereby augmenting c-Jun levels and cellular proliferation, and suggests that JNK2 is a negative regulator of cellular proliferation in multiple cell types. JNK2 prevents replicative stress by coordinating cell cycle progression and DNA damage repair mechanisms. JNK2 blocks the ubiquitination of tumor suppressor p53, and thus increases the stability of p53 in nonstressed cells. JNK2 negatively regulates antigen-specific CD8+ T cell expansion and effector function, and thus selectively blocking JNK2 in CD8+ T cells may potentially enhance the anti-tumor immune response. Lack of JNK2 expression was associated with higher tumor aneuploidy and reduced DNA damage response. Additionally, the JNK2 protein could be a novel therapeutic target in dry eye disease and may provide a novel target for the prevention of vascular disease and atherosclerosis.



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