MATK Antibody / Megakaryocyte-associated tyrosine kinase (FY13368)

Catalog No.	Formulation	Size
FY13368	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

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 Na2HPO4.
UniProt	P42679
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This MATK antibody is available for research use only.

Description

MATK antibody detects Megakaryocyte-associated tyrosine kinase, a cytoplasmic kinase encoded by the MATK gene located on chromosome 19q13.3. MATK belongs to the Csk (C-terminal Src kinase) family of non-receptor tyrosine kinases, acting primarily as a negative regulator of Src family kinases such as LYN, FYN, and HCK. It is expressed in hematopoietic cells, especially platelets, T cells, B cells, and megakaryocytes, where it modulates signaling cascades that control cell activation, proliferation, and differentiation. MATK serves as a key regulator of immune cell signaling and platelet function by maintaining balanced tyrosine phosphorylation levels.

Structurally, MATK contains an SH3 domain, an SH2 domain, and a C-terminal catalytic kinase domain, similar to Csk, but it lacks the N-terminal myristoylation signal that targets Csk to membranes. This structural difference restricts MATK mainly to the cytoplasm, where it regulates Src kinases indirectly through adaptor-mediated interactions. MATK belongs to the protein tyrosine kinase family and shares homology with other signaling regulators such as CSK and CHK. Known interacting partners include PAG1, LAT, and LYN, which facilitate recruitment to signaling complexes.

Functionally, MATK phosphorylates inhibitory tyrosine residues within Src family kinases, leading to their inactivation and termination of receptor signaling. In platelets, MATK regulates activation by suppressing FYN and LYN kinase signaling downstream of GPVI and integrins. In immune cells, it modulates T-cell receptor (TCR) and B-cell receptor (BCR) signaling, helping to prevent overactivation and maintain immune tolerance. MATK also participates in neuronal and endothelial cell signaling, contributing to cytoskeletal organization and vascular homeostasis.

MATK plays an important role in preventing hyperactivation of immune responses and maintaining hemostatic balance. Dysregulation of MATK expression or activity has been associated with autoimmune disorders, inflammatory diseases, and malignancies. Reduced MATK expression can result in excessive Src kinase activity, contributing to aberrant cell growth and survival. Conversely, overexpression has been observed in certain leukemias, where it suppresses proliferation signaling. Pathway involvement includes Src kinase signaling, platelet activation, and immune receptor regulation.

Immunohistochemical staining using MATK antibody shows cytoplasmic localization in lymphocytes, megakaryocytes, and endothelial cells. The MATK antibody from NSJ Bioreagents is an excellent reagent for studying tyrosine kinase signaling, immune regulation, and platelet biology.

Application Notes

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

Immunogen

E.coli-derived human MATK recombinant protein (Position: S18-Q298) was used as the immunogen for the MATK antibody.

Storage

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