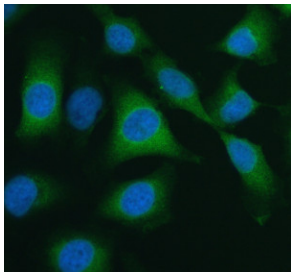
STK4 Antibody / Mammalian STE20-like Kinase 1 Polyclonal Antibody (FY12975)

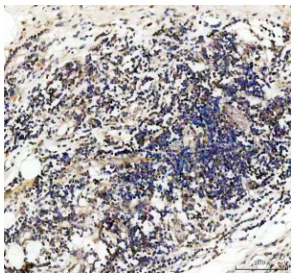
Catalog No.	Formulation	Size
FY12975	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

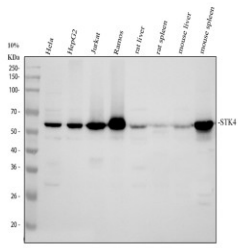
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q13043
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Immunoprecipitation: 2ug per 500ug of lysate ELISA: 0.1-0.5ug/ml
Limitations	This STK4 Antibody / Mammalian STE20-like Kinase 1 Polyclonal Antibody is available for research use only.



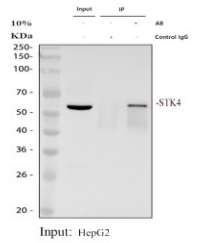
STK4 Antibody by IF in HeLa cells. Immunofluorescence staining of human HeLa cells using STK4 Antibody at 5 ug/ml. Green Fluoro488 fluorescence is distributed throughout the cytoplasm, with stronger perinuclear staining and comparatively limited nuclear signal. Nuclei are counterstained blue with DAPI. Enzymatic antigen retrieval was performed for 15 minutes, followed by overnight primary antibody incubation at 4oC. Fluoro488-conjugated goat anti-rabbit IgG was used at 1:500. This Mammalian STE20-like Kinase 1 Polyclonal Antibody demonstrates intracellular STK4 detection.



STK4 Antibody by IHC in human lymph tissue. Immunohistochemistry of FFPE human lymph tissue using STK4 Antibody at 2 ug/ml. Brown immunoreactivity is distributed throughout the lymphoid tissue, with variable staining intensity and predominantly cytoplasmic localization. Hematoxylin counterstaining highlights numerous blue-purple nuclei. Heat-mediated antigen retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Mammalian STE20-like Kinase 1 Polyclonal Antibody demonstrates immunoreactivity in human lymphoid tissue.



STK4 Antibody by WB in human and rodent cell and tissue lysates. Western blot analysis using rabbit polyclonal STK4 Antibody. Lane 1: HeLa; lane 2: HepG2; lane 3: Jurkat; lane 4: Ramos; lane 5: rat liver; lane 6: rat spleen; lane 7: mouse liver; lane 8: mouse spleen. Samples were separated by 10% SDS-PAGE under reducing conditions, with 30 ug loaded per lane. A prominent band is detected at approximately 56 kDa, matching the predicted molecular weight of STK4. Signal intensity varies among samples, with minimal additional background staining. This Mammalian STE20-like Kinase 1 Polyclonal Antibody was used at 0.5 ug/ml.



STK4 Antibody by IP and WB in HepG2 cells. Immunoprecipitation of STK4 from human HepG2 lysate using rabbit polyclonal STK4 Antibody, followed by western blot detection. Lane 1: HepG2 input (30 ug); lane 2: rabbit control IgG IP; lane 3: IP using 2 ug antibody with 500 ug lysate. Western blot detection used the same antibody at 0.5 ug/ml. A distinct band near 56 kDa appears in the input and antibody IP lanes but is absent from the control IgG lane, supporting antibody-dependent enrichment. This Mammalian STE20-like Kinase 1 Polyclonal Antibody demonstrates IP activity.

Description

STK4 Antibody recognizes serine/threonine-protein kinase 4 (STK4), a cytoplasmic protein kinase commonly known as mammalian STE20-like kinase 1 (MST1). This enzyme belongs to the STE20 family of serine/threonine kinases and plays an important role in the Hippo signaling pathway, which regulates cell proliferation, apoptosis, tissue growth, and organ size. STK4 should not be confused with macrophage stimulating 1, an unrelated protein encoded by the MST1 gene. The STK4 gene encodes the kinase historically designated MST1, making the official gene symbol particularly important for accurate target identification.

The human STK4 gene is located on chromosome 20 and encodes a protein of approximately 487 amino acids with a calculated molecular weight near 56 kDa. Its structure includes an N-terminal catalytic kinase domain and a C-terminal regulatory region containing a SARAH domain involved in protein interactions and kinase regulation. STK4 can form complexes with related kinases and regulatory proteins, including STK3 (MST2) and SAV1, supporting the assembly of Hippo signaling complexes. Activation involves phosphorylation within the kinase activation loop, while additional regulatory interactions influence its localization and enzymatic activity.

Within the canonical Hippo pathway, STK4 and STK3 phosphorylate and activate downstream kinases LATS1 and LATS2, helping regulate the transcriptional coactivators YAP and TAZ. When Hippo signaling is active, YAP and TAZ are phosphorylated and restrained from promoting transcriptional programs associated with cell growth and survival. Disruption of this pathway can contribute to uncontrolled proliferation and altered tissue architecture. The Mammalian STE20-like Kinase 1 Polyclonal Antibody is relevant to investigations of these signaling mechanisms and their relationship to cellular growth control.

STK4 also participates in stress responses and programmed cell death. During apoptosis, caspase-mediated cleavage can generate an active kinase fragment capable of influencing nuclear events, including chromatin condensation. Beyond its role in apoptosis, STK4 contributes to immune cell survival, lymphocyte trafficking, and cytoskeletal organization.

Inherited STK4 deficiency is associated with a rare immunodeficiency characterized by lymphopenia and susceptibility to recurrent infections, highlighting its importance in immune homeostasis.

Altered STK4 signaling has been investigated in cancer, inflammatory disorders, and diseases involving abnormal tissue regeneration. Its functions depend on cellular context and interactions with other Hippo pathway components. NSJ Bioreagents offers this antibody for research into kinase signaling, apoptosis, and immune regulation. An STK4 Antibody provides a tool for studying mammalian STE20-like kinase 1 expression and its involvement in Hippo pathway activity and cellular homeostasis.

Explore our Signal Transduction Antibodies collection for additional antibodies targeting kinases and regulatory proteins involved in intracellular signaling pathways.

Application Notes

Optimal dilution of the STK4 Antibody / Mammalian STE20-like Kinase 1 Polyclonal Antibody should be determined by the researcher.

Immunogen

E.coli-derived human MST1/STK4 recombinant protein (Position: E324-D452) was used as the immunogen for the STK4 Antibody.

Storage

After reconstitution, the STK4 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

MST1 Kinase antibody, Mammalian STE20-like Kinase 1 antibody, Serine Threonine Kinase 4 antibody, Serine/Threonine-Protein Kinase 4 antibody, Hippo Pathway Kinase MST1 antibody

Copyright © NSJ Bioreagents. All rights reserved.