

STK31 Antibody / Serine/threonine-protein kinase 31 (FY12999)

Catalog No.	Formulation	Size
FY12999	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	Q9BXU1
Applications	ELISA: 0.1-0.5ug/ml Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Flow Cytometry: 1-3ug/million cells
Limitations	This STK31 antibody is available for research use only.

Description

STK31 antibody detects Serine/threonine-protein kinase 31, a testis-enriched kinase implicated in cell cycle regulation, chromatin organization, and germ cell development. The UniProt recommended name is Serine/threonine-protein kinase 31 (STK31). This enzyme belongs to the TDRD (Tudor domain-containing) kinase family, which coordinates post-translational modifications and chromatin-associated signaling during meiosis and mitosis.

Functionally, STK31 antibody identifies an 888-amino-acid cytoplasmic and nuclear protein containing a serine/threonine kinase domain and a Tudor domain that recognizes methylated arginine and lysine residues. STK31 acts as a scaffold linking chromatin dynamics to signaling pathways that govern cell division. In germ cells, it localizes to the chromatoid body, a specialized cytoplasmic structure involved in RNA processing and regulation during spermatogenesis. Its activity supports meiotic progression, chromatin condensation, and genomic stability.

The STK31 gene is located on chromosome 7p15.3 and is expressed predominantly in testis, with lower levels detected in certain somatic tissues and tumors. Its kinase activity regulates phosphorylation events critical for spindle assembly and chromosome alignment. Dysregulation of STK31 expression has been observed in various cancers, including

colorectal, gastric, and breast carcinoma, where it may promote cell proliferation and migration through modulation of cytoskeletal organization and mitotic checkpoint control.

In cancer biology, STK31 is considered a cancer-testis antigen, reflecting its restricted normal expression but reactivation in tumors. Elevated expression enhances proliferation and resistance to apoptosis, suggesting potential as a therapeutic target or biomarker. STK31 overexpression also correlates with chromosomal instability and altered epigenetic landscapes in tumor cells.

STK31 antibody is widely used in cell cycle, germ cell biology, and oncology research. It is suitable for immunoblotting, immunofluorescence, and kinase activity assays to detect STK31 expression and subcellular localization. In reproductive biology, it supports studies of meiotic regulation, RNA granule organization, and germ cell maturation. In oncology, detection of STK31 contributes to understanding its role in tumorigenesis and potential as a prognostic marker.

Structurally, STK31 comprises a conserved catalytic kinase domain, a Tudor domain for chromatin interactions, and regulatory sequences that control subcellular targeting. Its kinase activity may be regulated by phosphorylation and binding to scaffold proteins within the mitotic apparatus. NSJ Bioreagents provides STK31 antibody reagents validated for use in cell division, chromatin regulation, and reproductive system research.

Application Notes

Optimal dilution of the STK31 antibody should be determined by the researcher.

Immunogen

E.coli-derived human STK31 recombinant protein (Position: H29-K993) was used as the immunogen for the STK31 antibody.

Storage

After reconstitution, the STK31 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.