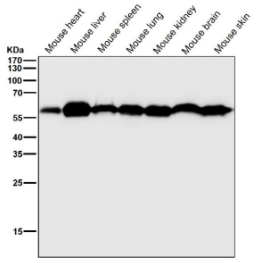
KLC3 Antibody / Kinesin light chain 3 [clone 32K83] (FY12104)

Catalog No.	Formulation	Size
FY12104	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

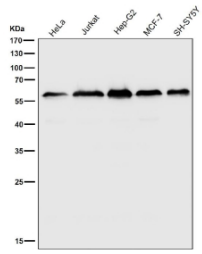
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32K83
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q6P597
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Immunofluorescence : 1:50-1:200 Immunoprecipitation : 1:50 Flow Cytometry : 1:50
Limitations	This KLC3 antibody is available for research use only.



All lanes use the KLC3 antibody at 1:2K dilution for 1 hour at room temperature.
Predicted molecular weight ~55 kDa.



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Description

KLC3 antibody detects kinesin light chain 3, a subunit of the kinesin-1 molecular motor complex responsible for microtubule-based transport. KLC proteins function as adaptors, linking cargo vesicles and organelles to kinesin heavy chains for movement toward the plus-end of microtubules. KLC3 is primarily expressed in testis and has unique roles in spermatogenesis, where it regulates transport of mitochondria and other organelles during sperm tail development.

Research using KLC3 antibody has shown that loss or dysfunction of KLC3 impairs mitochondrial localization in sperm flagella, leading to defective motility and male infertility. In animal models, KLC3 knockout results in abnormal sperm morphology and reduced fertility, confirming its importance for reproductive biology. Beyond reproduction, kinesin light chains also participate in neuronal transport, suggesting that KLC3 may share overlapping functions with other KLC isoforms in cargo regulation.

Aberrant regulation of kinesin proteins, including KLC3, has been linked to neurodegenerative disease and cancer. Disruption of intracellular transport contributes to neuronal dysfunction in disorders such as Alzheimer's disease, while tumor cells often exploit vesicle trafficking for signaling and survival. Studying KLC3 expression therefore offers insight into both specialized reproductive roles and broader cell biological processes.

Antibodies against KLC3 are validated for applications such as western blot, immunohistochemistry, and immunofluorescence. These reagents allow researchers to examine protein expression patterns, subcellular localization, and cargo-binding dynamics. Clone-based antibodies ensure high specificity when distinguishing KLC3 from closely related family members such as KLC1 and KLC2.

NSJ Bioreagents provides this KLC3 antibody for research in reproduction, intracellular trafficking, and disease pathways linked to motor protein function.

Application Notes

Optimal dilution of the KLC3 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human KLC3 was used as the immunogen for the KLC3 antibody.

Storage

Store the KLC3 antibody at -20oC.