

KIF7 Antibody / Kinesin-like protein KIF7 (FY12535)

Catalog No.	Formulation	Size
FY12535	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
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 Na ₂ HPO ₄ .
UniProt	Q2M1P5
Applications	Western Blot : 0.25-0.5ug/ml
Limitations	This KIF7 antibody is available for research use only.

Description

KIF7 antibody detects Kinesin-like protein KIF7, a microtubule-associated motor protein that plays a crucial role in Hedgehog signaling and ciliary function. KIF7 is a member of the kinesin superfamily and acts as a regulator of microtubule dynamics rather than as a transport motor. The KIF7 antibody is commonly used in developmental biology and cilia research to explore signal transduction, cytoskeletal regulation, and morphogenesis.

KIF7 is encoded by the KIF7 gene located on human chromosome 15q26.1. The protein is approximately 134 kilodaltons and contains an N-terminal motor domain, a coiled-coil stalk, and a C-terminal tail region required for signaling complex assembly. KIF7 localizes to the primary cilium and functions as a scaffold controlling the balance between active and repressive forms of the transcription factor GLI in response to Hedgehog pathway activation.

The KIF7 antibody detects a 134 kilodalton protein by western blot and reveals distinct ciliary tip staining by immunofluorescence. KIF7 regulates microtubule stability and controls ciliary length, essential for proper Hedgehog signal transduction. It restrains GLI2 and GLI3 activity by preventing excessive microtubule polymerization at the ciliary tip and recruiting pathway regulators such as SUFU.

Loss-of-function mutations in KIF7 cause ciliopathies, including Joubert syndrome and hydroletharus syndrome, characterized by brain malformations and defective patterning during embryogenesis. Aberrant KIF7 signaling disrupts

tissue polarity and organ development, while partial reduction contributes to tumorigenesis by allowing uncontrolled Hedgehog pathway activation.

KIF7 is an essential modulator of ciliary signaling and structural organization, integrating microtubule mechanics with developmental cues. NSJ Bioreagents provides a validated KIF7 antibody optimized for western blot, immunocytochemistry, and cilia imaging, enabling detailed investigation of Hedgehog pathway regulation, neuronal patterning, and ciliary function.

Application Notes

Optimal dilution of the KIF7 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human KIF7 was used as the immunogen for the KIF7 antibody.

Storage

After reconstitution, the KIF7 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.