

QKI Antibody / Protein Quaking (FY12705)

Catalog No.	Formulation	Size
FY12705	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human, Mouse, Rat, Monkey
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	Q96PU8
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This QKI antibody is available for research use only.

Description

QKI antibody detects Protein quaking (also known as KH domain-containing RNA-binding protein QKI), a member of the STAR (Signal Transduction and Activation of RNA) family of RNA-binding proteins that regulate mRNA splicing, export, stability, and translation. Encoded by the QKI gene on chromosome 6q26, this protein plays an essential role in myelination, neural development, and cell differentiation. QKI contains a single KH (hnRNP K homology) RNA-binding domain and functions as both a translational repressor and splicing modulator depending on cellular context. The protein binds specific RNA motifs known as Quaking Response Elements (QREs), influencing alternative splicing patterns in numerous genes that control cytoskeletal dynamics and myelin sheath formation.

QKI exists in multiple isoforms—QKI-5, QKI-6, and QKI-7—generated through alternative splicing of the C-terminal region. These isoforms differ in subcellular localization and function: QKI-5 resides predominantly in the nucleus and regulates pre-mRNA splicing, QKI-6 shuttles between the nucleus and cytoplasm to coordinate mRNA export and translation, and QKI-7 localizes mainly in the cytoplasm where it modulates mRNA stability. Collectively, these isoforms

maintain neuronal and glial cell homeostasis. Mutations or loss of QKI disrupt oligodendrocyte maturation and cause hypomyelination, while abnormal expression contributes to neurodevelopmental disorders and gliomas.

The QKI antibody is widely used in neuroscience and RNA biology research to study RNA metabolism and myelin formation. Western blot analysis detects bands corresponding to the major QKI isoforms ranging from 38 to 45 kilodaltons. Immunofluorescence with this antibody reveals nuclear and cytoplasmic localization patterns depending on isoform distribution and cell type. In the central nervous system, QKI is expressed in oligodendrocytes, astrocytes, and neurons, where it modulates the expression of myelin-related genes such as MBP and PLP1. This makes the QKI antibody a valuable reagent for investigating myelination, glial cell biology, and post-transcriptional regulation.

Beyond the nervous system, QKI influences epithelial-mesenchymal transition, vascular smooth muscle differentiation, and cardiac development. It has also been implicated in tumor suppression, with reduced expression linked to glioblastoma and colorectal cancer progression. The protein interacts with signaling molecules including STAT1 and AKT, suggesting integration between RNA processing and signal transduction. Researchers employ the QKI antibody to monitor these molecular pathways, exploring how altered RNA regulation drives disease phenotypes. NSJ Bioreagents provides this antibody validated for western blot, immunohistochemistry, and immunofluorescence, ensuring reliable results across species and tissue types.

Application Notes

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

Immunogen

E.coli-derived human QKI recombinant protein (Position: M1-N341) was used as the immunogen for the QKI antibody.

Storage

After reconstitution, the QKI 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.