

QK1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP54554

Specification

QK1 Polyclonal Antibody - Product Information

Application WB, IHC-P, IHC-F, IF, ICC, E

Primary Accession
Reactivity
Rat
Host
Clonality
Calculated MW
Rat
Rabbit
Polyclonal
38 KDa

Immunogen KLH conjugated synthetic peptide derived

Liquid

laG

from human QK1

Epitope Specificity 220/341/341

Isotype Purity

Physical State

affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02%

Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Nucleus. Cytoplasm.
SIMILARITY Contains 1 KH domain.

SUBUNIT Homodimer. Does not require RNA to

homodimerize. Able to heterodimerize with

BICC1

Post-translational modifications Methylated by PRMT1. Tyrosine

phosphorylated at its C-terminus, probably

by FYN. Phosphorylation leads to

decreased mRNA-binding affinity, affecting

transport and/or stabilization of MBP

mRNA.

Important Note This product as supplied is intended for

research use only, not for use in human, therapeutic or diagnostic applications.

Background Descriptions

QKI is a 341 amino acid protein that localizes to both the cytoplasm and the nucleus and contains one KH domain. Expressed in the frontal cortex of the brain, QKI functions as an RNA-binding protein that plays an important role in myelinization and specifically binds to the RNA core sequence 5'-NACUAAY-N(1,20)-UAAY-3'. Additionally, QKI regulates pre-mRNA splicing, and mRNA export and is involved in protecting and promoting the stability of select mRNAs. QKI may be methylated by PRMT1 and may also be phosphorylated at its C-terminus, an event that decreases QKI mRNA-binding affinity. Defects or deletions in the gene encoding QKI are associated with astrocytic tumors and may be involved in the pathogenesis of schizophrenia. Multiple isoforms of QKI exist due to alternative splicing events.

QK1 Polyclonal Antibody - Additional Information



Gene ID 9444

Other Names

Protein quaking, Hqk, HqkI, QKI, HKQ

Target/Specificity

Expressed in the frontal cortex of brain. Down-regulated in the brain of schizophrenic patients.

Dilution

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 < span class = "dilution_WB">WB~~1:1000</span>< br \>< span class = "dilution_IHC-P">IHC-P~~N/A</span>< br \>< span class = "dilution_IHC-F">IHC-F~~N/A</span>< br \>< span class = "dilution_IF">IF~~1:50~200</span>< br \>< span class = "dilution_ICC">ICC~~N/A</span>< br \>< span class = "dilution_E">E~~N/A</span>< span
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Storage

Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

QK1 Polyclonal Antibody - Protein Information

Name QKI {ECO:0000303|PubMed:16342280, ECO:0000312|HGNC:HGNC:21100}

Function

RNA reader protein, which recognizes and binds specific RNAs, thereby regulating RNA metabolic processes, such as pre-mRNA splicing, circular RNA (circRNA) formation, mRNA export, mRNA stability and/or translation (PubMed: 22398723, PubMed:23630077, PubMed:25768908, PubMed:27029405, PubMed:31331967, PubMed:37379838). Involved in various cellular processes, such as mRNA storage into stress granules, apoptosis, lipid deposition, interferon response, glial cell fate and development (PubMed: 25768908, PubMed:31829086, PubMed:34428287, PubMed:37379838). Binds to the 5'-NACUAAY-N(1,20)-UAAY-3' RNA core sequence (PubMed:23630077). Acts as a mRNA modification reader that specifically recognizes and binds mRNA transcripts modified by internal N(7)-methylguanine (m7G) (PubMed:37379838). Promotes the formation of circular RNAs (circRNAs) during the epithelial to mesenchymal transition and in cardiomyocytes: acts by binding to sites flanking circRNA-forming exons (PubMed: 25768908). CircRNAs are produced by back-splicing circularization of pre-mRNAs (PubMed:25768908). Plays a central role in myelinization via 3 distinct mechanisms (PubMed: 16641098). First, acts by protecting and promoting stability of target mRNAs such as MBP, SIRT2 and CDKN1B, which promotes oligodendrocyte differentiation (By similarity). Second, participates in mRNA transport by regulating the nuclear export of MBP mRNA (By similarity). Finally, indirectly regulates mRNA splicing of MAG pre- mRNA during oligodendrocyte differentiation by acting as a negative regulator of MAG exon 12 alternative splicing: acts by binding to HNRNPA1 mRNA splicing factor, preventing



its translation (By similarity). Involved in microglia differentiation and remyelination by regulating microexon alternative splicing of the Rho GTPase pathway (By similarity). Involved in macrophage differentiation: promotes monocyte differentiation by regulating pre-mRNA splicing in naive peripheral blood monocytes (PubMed:27029405). Acts as an important regulator of muscle development: required for the contractile function of cardiomyocytes by regulating alternative splicing of cardiomyocyte transcripts (By similarity). Acts as a negative regulator of thermogenesis by decreasing stability, nuclear export and translation of mRNAs encoding PPARGC1A and UCP1 (By similarity). Also required for visceral endoderm function and blood vessel development (By similarity). May also play a role in smooth muscle development (PubMed:31331967). In addition to its RNA-binding activity, also acts as a nuclear transcription coactivator for SREBF2/SREBP2 (By similarity).

Cellular Location

Nucleus. Cytoplasm [Isoform QKI6]: Cytoplasm, cytosol. Nucleus Note=Localizes predominantly in the cytoplasm and at lower levels in nucleus.

Tissue Location

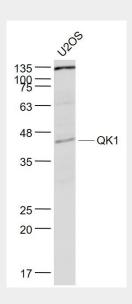
Expressed in the frontal cortex of brain. Down- regulated in the brain of schizophrenic patients

QK1 Polyclonal Antibody - Protocols

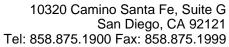
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- <u>Immunofluorescence</u>
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

QK1 Polyclonal Antibody - Images



Sample:





U2OS(Human) Cell Lysate at 30 ug

Primary: Anti- QK1 (bs-11579R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 38 kD Observed band size: 40 kD