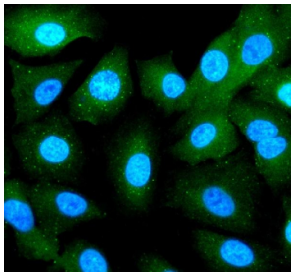
RBCK1 Antibody / RanBP-type and C3HC4-type zinc finger-containing protein 1 (FY12476)

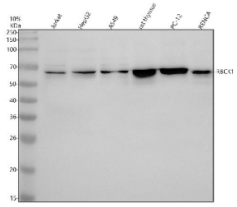
Catalog No.	Formulation	Size
FY12476	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

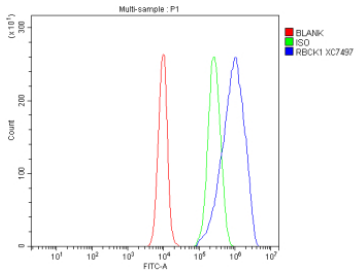
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9BYM8
Localization	Cytoplasm
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This RBCK1 antibody is available for research use only.



Immunofluorescent staining of RBCK1 using anti-RBCK1 antibody (green). RBCK1 was detected in an immunocytochemical section of cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-RBCK1 antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of RBCK1 using anti-RBCK1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Jurkat whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: rat thymus tissue lysates, Lane 5: rat PC-12 whole cell lysates, Lane 6: mouse RenCa whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-RBCK1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. The expected molecular weight of RBCK1 is ~58 kDa.



Flow Cytometry analysis of cells using anti-RBCK1 antibody. Overlay histogram showing cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-RBCK1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

RBCK1 antibody recognizes RanBP-type and C3HC4-type zinc finger-containing protein 1, an E3 ubiquitin-protein ligase involved in inflammation, innate immunity, and linear ubiquitin chain assembly. RBCK1 belongs to the HOIL-1 subfamily of RBR (RING-between-RING) E3 ligases and functions as part of the linear ubiquitin chain assembly complex (LUBAC) together with HOIP (RNF31) and SHARPIN. This complex is essential for NF-kappaB activation and regulation of immune responses. The RBCK1 antibody is widely used in immunology, cell signaling, and inflammation research to study ubiquitin-dependent regulatory mechanisms governing cell survival and immune homeostasis.

RBCK1 is encoded by the RBCK1 gene located on human chromosome 20q11.22. The protein contains several domains, including an N-terminal ubiquitin-like (UBL) domain, a RanBP-type zinc finger, a central RBR domain, and a C-terminal NZF-type zinc finger. These motifs enable RBCK1 to interact with ubiquitin, E2 conjugating enzymes, and adaptor proteins to assemble linear and lysine-63-linked ubiquitin chains. Through these modifications, RBCK1 promotes activation of NF-kappaB signaling and contributes to the regulation of cytokine production and cell survival following immune receptor stimulation.

The RBCK1 antibody is useful for detecting the 56-60 kilodalton protein by western blot and immunoprecipitation. In cells, RBCK1 localizes to the cytoplasm and occasionally to the nucleus, depending on signaling state. Functional studies have shown that deficiency or mutation of RBCK1 leads to defects in LUBAC function, resulting in impaired immune signaling, chronic inflammation, or autoinflammatory disorders such as polyglucosan body myopathy. Loss of RBCK1 function also compromises the stability of HOIP, reducing linear ubiquitination of NEMO and other substrates critical for inflammatory gene transcription.

Beyond immunity, RBCK1 participates in protein quality control through the degradation of misfolded cytosolic proteins. It contributes to the ubiquitin-proteasome system and has been implicated in muscle physiology and mitochondrial regulation. Recent studies suggest that RBCK1 also influences cellular metabolism and redox balance, linking ubiquitin signaling to broader physiological processes. NSJ Bioreagents provides a validated RBCK1 antibody optimized for western blot, immunofluorescence, and immunohistochemistry applications, enabling researchers to investigate the interplay between ubiquitin signaling, immune regulation, and inflammatory disease pathogenesis.

Application Notes

Optimal dilution of the RBCK1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RBCK1 recombinant protein (Position: M1-R446) was used as the immunogen for the RBCK1 antibody.

Storage

After reconstitution, the RBCK1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.