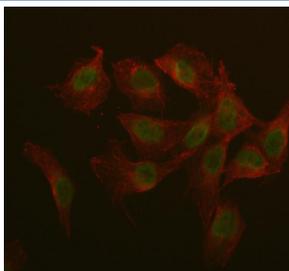


IQCE Antibody / IQ domain-containing protein E (FY12471)

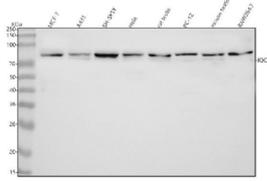
Catalog No.	Formulation	Size
FY12471	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
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	Q6IPM2
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This IQCE antibody is available for research use only.



Immunofluorescent staining of IQCE using anti-IQCE antibody (green) and anti-Beta Tubulin antibody (red). IQCE was detected in immunocytochemical section of U2OS cell. 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-IQCE antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Donkey Anti-Rabbit IgG and DyLight 594 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of IQCE using anti-IQCE antibody. Lane 1: human MCF-7 whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human SH-SY5Y whole cell lysates, Lane 4: human Hela whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: rat PC-12 whole cell lysates, Lane 7: mouse testis tissue lysates, Lane 8: mouse RAW264.7 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-IQCE 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 enhanced chemiluminescent. The expected molecular weight of IQCE is ~77 kDa.

Description

IQCE antibody recognizes IQ domain-containing protein E, a calcium-regulated component essential for the assembly and stability of primary cilia. IQCE belongs to a family of IQ motif-containing proteins that bind calmodulin and function in calcium signaling regulation. Within ciliated cells, IQCE localizes at the basal body and transition zone, helping to anchor structural and signaling complexes necessary for ciliogenesis. The IQCE antibody is a critical reagent for exploring developmental biology, signaling regulation, and ciliopathies caused by defective ciliary assembly.

IQCE is encoded by the IQCE gene located on human chromosome 7p22.3. The protein contains one or more IQ motifs, short consensus sequences that mediate calcium-calmodulin interactions. These motifs enable IQCE to sense calcium changes and respond by altering its binding partners and structural conformation. It interacts with EF-hand calcium-binding protein EFCAB1 to form a complex required for the stability of the ciliary base. This partnership regulates Hedgehog signaling, a pathway central to embryogenesis and tissue differentiation. Disruption of IQCE causes ciliopathies, including acrocallosal syndrome, characterized by brain malformation, craniofacial defects, and polydactyly.

With the IQCE antibody, western blot analysis typically reveals a 77 kilodalton band, while immunofluorescence shows punctate staining at centrosomes and basal bodies. Ciliary localization is confirmed through co-staining with gamma-tubulin and acetylated tubulin. Loss-of-function studies demonstrate that IQCE depletion shortens or eliminates primary cilia, disrupting Hedgehog target gene activation. The protein also supports the recruitment of intraflagellar transport (IFT) components, ensuring proper axonemal elongation.

Beyond ciliary biology, IQCE expression in epithelial and fibroblast cells suggests additional roles in vesicular trafficking, cytoskeletal organization, and mechanosensory signaling. Its calcium sensitivity allows IQCE to integrate mechanical and biochemical cues, influencing organ development and tissue maintenance. NSJ Bioreagents provides a validated IQCE antibody optimized for western blot, immunofluorescence, and confocal imaging applications. This reagent enables detailed exploration of calcium-calmodulin signaling and the molecular basis of ciliary assembly in health and disease.

Application Notes

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

Immunogen

E.coli-derived human IQCE recombinant protein (Position: D112-H621) was used as the immunogen for the IQCE antibody.

Storage

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

