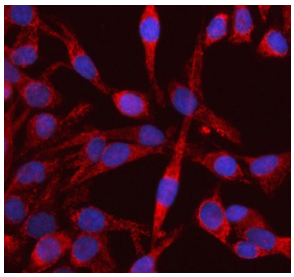
RIG Antibody / Protein regulated in glioma (FY13018)

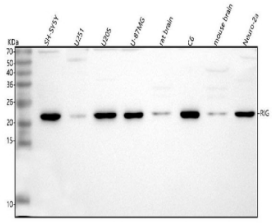
Catalog No.	Formulation	Size
FY13018	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

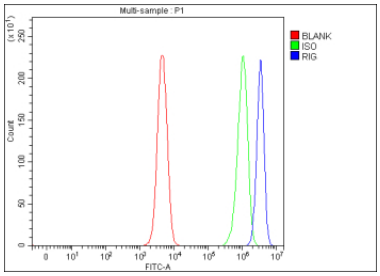
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q13278
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This RIG antibody is available for research use only.



Immunofluorescent staining of RIG using anti-RIG antibody (red). RIG was detected in an immunocytochemical section of HELA 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-DKK3 antibody overnight at 4oC. Cy3 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 RIG using anti-RIG antibody. Lane 1: human SH-SY5Y whole cell lysates, Lane 2: human U251 whole cell lysates, Lane 3: human U20S whole cell lysates, Lane 4: human U-87MG whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat C6 whole cell lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse Neuro-2a 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-DKK3 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. Western blot analysis of putative protein RIG using anti-RIG antibody. A single band is detected at ~22 kDa in multiple lysates, running above the ~12 kDa prediction. The higher apparent MW is consistent with the known anomalous SDS-PAGE migration of this small hydrophobic protein and its partial oligomer/membrane association; it is distinct from RIG-I (DDX58).



Flow Cytometry analysis of SH-SY5Y cells using anti-RIG antibody. Overlay histogram showing SH-SY5Y 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-RIG 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 (Red line) was also used as a control.

Description

RIG antibody detects Protein regulated in glioma (RIG), a small nuclear protein of approximately 12 kDa composed of 110 amino acids. This protein was originally identified in glioma cell lines, where its expression correlated with tumor cell growth and differentiation state. The UniProt recommended name is Protein regulated in glioma (RIG). Unlike RIG-I (the 102 kDa DExD/H-box helicase involved in antiviral signaling), this RIG protein is a distinct nuclear factor believed to participate in transcriptional regulation and RNA metabolism within glial and neuronal cells.

RIG localizes predominantly to the nucleus and may function as a DNA- or RNA-binding protein that modulates transcriptional output under conditions of metabolic or proliferative stress. Its small size and sequence composition suggest that it acts as an auxiliary nuclear factor rather than a canonical enzyme. Expression analyses from glioma and astrocytoma models indicate that RIG levels can fluctuate during tumor progression, possibly reflecting changes in transcriptional activity, cell cycle control, or differentiation signaling. Overexpression of RIG in some glioma-derived lines has been linked to enhanced proliferation and resistance to apoptotic stimuli, whereas reduced expression can coincide with altered cell morphology or loss of growth capacity.

The RIG gene encodes a compact protein that may influence chromatin accessibility or RNA processing. It is expressed in several tissues but shows highest abundance in neural and glial populations. Its amino acid sequence contains motifs compatible with nuclear localization and RNA recognition, supporting a role in coordinating transcriptional output with cellular stress or growth cues. Although the detailed mechanisms remain under investigation, RIG is thought to act as a nuclear modulator of gene expression relevant to glioma pathogenesis.

At the cellular level, RIG expression has been reported to respond to external stimuli such as serum withdrawal, oxidative stress, and exposure to differentiation agents. These findings suggest that RIG may help cells adapt transcriptionally to environmental or developmental cues. In glioma models, its upregulation is often associated with actively dividing cells, consistent with a role in sustaining nuclear RNA metabolism and growth-associated gene expression programs.

RIG antibody provides a specific reagent for detecting this 12 kDa nuclear protein in cultured cells and tissue extracts. It

supports research focused on glioma biology, transcriptional regulation, and nuclear protein function. The antibody can aid in identifying RIG expression patterns in tumor versus normal brain tissue and in exploring nuclear pathways involved in glial differentiation. NSJ Bioreagents provides RIG antibody validated for use in relevant research applications supporting studies in neuro-oncology, transcriptional regulation, and cellular signaling.

Application Notes

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

Immunogen

E.coli-derived human RIG recombinant protein (Position: M1-L110) was used as the immunogen for the RIG antibody.

Storage

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

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