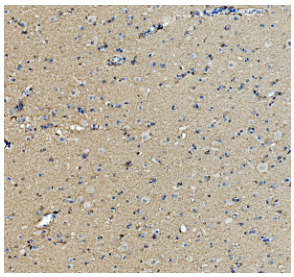
PRRG1 Antibody / TMG1 Polyclonal Antibody (RQ8024)

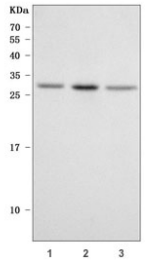
Catalog No.	Formulation	Size
RQ8024	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

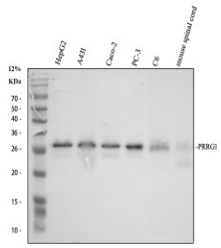
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O14668
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This PRRG1 Antibody / TMG1 Polyclonal Antibody is available for research use only.



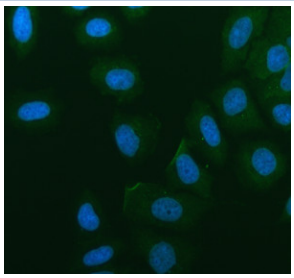
PRRG1 Antibody by IHC in human cerebral cortex. Immunohistochemistry of FFPE human cerebral cortex tissue using PRRG1 Antibody at 2 ug/ml. The image shows widespread light-to-moderate brown staining throughout the neuropil, with stronger staining in scattered cellular processes and some neuronal cell bodies. Numerous nuclei are counterstained blue, while vascular profiles and surrounding tissue architecture remain distinguishable. The staining is predominantly extranuclear and appears broadly distributed across the cortical tissue. Heat-mediated antigen retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. The observed pattern demonstrates PRRG1 immunoreactivity in neural tissue using this TMG1 Polyclonal Antibody.



PRRG1 Antibody by WB in HepG2, A431 and PC-3 cells. Western blot analysis of human cell lysates using PRRG1 Antibody. Lane 1: HepG2; lane 2: A431; lane 3: PC-3. A distinct immunoreactive band is visible in all three lanes at approximately 28-30 kDa, with the strongest signal in A431 cells. The predicted molecular weight of PRRG1 is approximately 25 kDa. Migration slightly above the calculated size is consistent with the behavior observed in the additional six-sample WB validation and may reflect post-translational modification or differences in electrophoretic mobility. The relatively clean banding pattern supports detection of the expected PRRG1 protein using this TMG1 Polyclonal Antibody.



PRRG1 Antibody by WB in human cell lines, rat C6 cells and mouse spinal cord. Western blot analysis of PRRG1 using rabbit polyclonal antibody. Samples were separated by 12% SDS-PAGE under reducing conditions, with 30 ug of protein loaded per lane. Lane 1: human HepG2 cells; lane 2: human A431 cells; lane 3: human Caco-2 cells; lane 4: human PC-3 cells; lane 5: rat C6 cells; lane 6: mouse spinal cord. A prominent band is detected at approximately 28-30 kDa in the human samples, with weaker signals in rat and mouse samples. The predicted molecular weight is approximately 25 kDa. The modest upward migration may reflect post-translational modifications or electrophoretic behavior of this membrane-associated protein. This TMG1 Polyclonal Antibody was used at 0.5 ug/ml.



PRRG1 Antibody by IF in human SiHa cells. Immunofluorescence staining of human SiHa cells using PRRG1 Antibody at 5 ug/ml. Green fluorescence indicates PRRG1 immunoreactivity, while DAPI counterstaining identifies nuclei in blue. The image shows relatively weak, diffuse green staining in the extranuclear cellular regions, with occasional brighter peripheral and punctate signals. Nuclear regions exhibit little green fluorescence. The distribution is compatible with an extranuclear protein, although a distinct plasma membrane localization cannot be established from this image alone. Cells underwent enzymatic antigen retrieval and overnight primary antibody incubation at 4oC, followed by a Fluoro488-conjugated secondary antibody. This TMG1 Polyclonal Antibody provides an additional means of examining PRRG1 localization.

Description

PRRG1 Antibody recognizes proline-rich gamma-carboxyglutamic acid protein 1 (PRRG1), also known as transmembrane gamma-carboxyglutamic acid protein 1 (TMG1). This vitamin K-dependent protein belongs to the proline-rich Gla protein family, whose members contain gamma-carboxyglutamic acid (Gla) residues and membrane-spanning regions. PRRG1 is encoded by the PRRG1 gene on human chromosome X and is characterized by an extracellular Gla domain and a proline-rich intracellular region. These structural features suggest that PRRG1 may participate in calcium-dependent interactions and intracellular signaling.

PRRG1 is synthesized as a precursor containing an N-terminal signal sequence and a propeptide that directs vitamin K-dependent gamma-carboxylation. During this modification, selected glutamic acid residues are converted to gamma-carboxyglutamic acid by gamma-glutamyl carboxylase. The resulting Gla domain can coordinate calcium ions, potentially influencing protein conformation and interactions with extracellular molecules. Although this modification is best characterized in blood coagulation proteins, Gla-containing transmembrane proteins such as PRRG1 represent a distinct group with potentially different biological functions.

The intracellular portion of PRRG1 contains proline-rich sequences, including PPXY and PXXP motifs. These motifs can serve as recognition sites for protein interaction domains, including WW and SH3 domains, respectively. Their presence suggests that PRRG1 may function as a membrane-associated adaptor or regulatory protein connecting extracellular interactions with intracellular signaling machinery. However, the precise binding partners and physiological functions of PRRG1 remain incompletely characterized.

PRRG1 expression has been reported in the nervous system, particularly the spinal cord, suggesting a possible role in neuronal development or function. Its relationship to other proline-rich Gla proteins has also generated interest in the broader functions of vitamin K-dependent proteins outside coagulation. Research involving TMG1 may help clarify how extracellular calcium binding and intracellular protein interaction motifs contribute to membrane-associated signaling pathways.

Alternative transcript variants have been described for the PRRG1 gene, potentially contributing to differences in protein structure or regulation. Understanding PRRG1 expression and localization may provide additional insight into the biological significance of transmembrane Gla proteins. NSJ Bioreagents offers this antibody for investigations of PRRG1 biology and its relationship to cellular signaling mechanisms.

An PRRG1 Antibody provides a research tool for examining the expression and distribution of TMG1, a vitamin K-dependent transmembrane protein with extracellular calcium-binding and intracellular protein interaction domains.

For antibodies targeting proteins involved in cellular communication and regulatory pathways, explore our Signal Transduction Antibodies.

Application Notes

Optimal dilution of the PRRG1 Antibody / TMG1 Polyclonal Antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids R3-N201) was used as the immunogen for the PRRG1 Antibody.

Storage

After reconstitution, the PRRG1 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

TMG1 antibody, Transmembrane Gamma-Carboxyglutamic Acid Protein 1 antibody, Proline-Rich Gamma-Carboxyglutamic Acid Protein 1 antibody

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