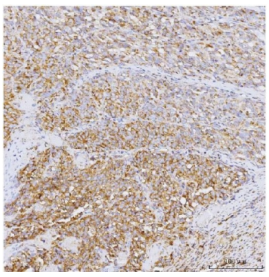
PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody (RQ7100)

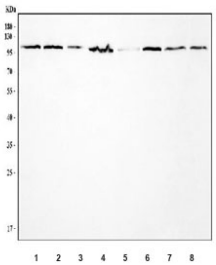
Catalog No.	Formulation	Size
RQ7100	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

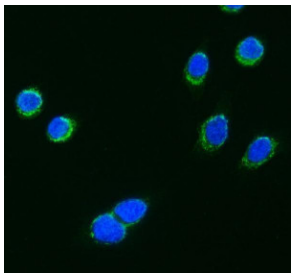
Availability	1-3 business days
Species Reactivity	Human, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O75807
Localization	Nuclear, cytoplasmic
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody is available for research use only.



PPP1R15A Antibody Human Melanoma IHC. Immunohistochemical staining of FFPE human melanoma tissue using PPP1R15A antibody following heat-induced epitope retrieval in pH8 EDTA buffer. Detection was performed using an HRP-based staining system. Tumor cells exhibit widespread cytoplasmic immunoreactivity with variable staining intensity throughout the melanoma tissue, consistent with expression of Protein Phosphatase 1 Regulatory Subunit 15A (GADD34), a regulator of the integrated stress response and eIF2alpha signaling. This result demonstrates that the PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody is suitable for immunohistochemical detection of endogenous PPP1R15A in formalin-fixed, paraffin-embedded human tissues.



PPP1R15A Antibody Multi-Cancer Human Cell and Rat Testis WB. Western blot analysis of PPP1R15A expression in multiple cell and tissue lysates. Lane 1: human K562. Lane 2: human HEL. Lane 3: human RT4. Lane 4: human U-251. Lane 5: human SiHa. Lane 6: human U-87 MG. Lane 7: human PC-3. Lane 8: rat testis tissue lysate. PPP1R15A antibody detects a prominent band at approximately 73 kDa across multiple samples, consistent with the predicted molecular weight of Protein Phosphatase 1 Regulatory Subunit 15A (GADD34). PPP1R15A may also migrate at up to approximately 110 kDa due to post-translational modification or altered electrophoretic mobility. This result demonstrates that the PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody is suitable for detecting endogenous PPP1R15A by Western blot in human and rat samples.



PPP1R15A Antibody Human Cervical Cancer Cell IF. Immunofluorescent staining of SiHa cells using PPP1R15A antibody following enzyme-mediated antigen retrieval (AR0022) for 15 minutes. Cells were incubated with PPP1R15A antibody at 5 ug/ml and detected with a Fluoro488-conjugated secondary antibody (green), with DAPI used as the nuclear counterstain (blue). PPP1R15A immunoreactivity is observed predominantly within the cytoplasm with perinuclear enrichment, consistent with the subcellular localization of Protein Phosphatase 1 Regulatory Subunit 15A (GADD34), a regulator of protein phosphatase 1 activity and the integrated stress response. This result demonstrates that the PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody is suitable for immunofluorescent detection of endogenous PPP1R15A in cultured human cells.

Description

PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody recognizes PPP1R15A, also widely known as GADD34, a stress-induced regulatory protein that plays a critical role in maintaining cellular homeostasis during adverse conditions. Expression of PPP1R15A is rapidly upregulated following endoplasmic reticulum stress, DNA damage, oxidative stress, nutrient deprivation, viral infection, and other stimuli that activate the integrated stress response. Rather than functioning as a catalytic enzyme, PPP1R15A serves as a regulatory subunit that directs protein phosphatase 1 toward phosphorylated eukaryotic translation initiation factor 2 alpha (eIF2alpha), promoting restoration of protein synthesis after cellular stress. A PPP1R15A Antibody is therefore an important reagent for investigating translational regulation and stress adaptation.

As Protein Phosphatase 1 Regulatory Subunit 15A, PPP1R15A provides a key negative feedback mechanism within the integrated stress response. Cellular stress activates kinases including PERK, PKR, GCN2, and HRI, leading to phosphorylation of eIF2alpha and temporary suppression of global protein synthesis. This allows selective translation of stress-responsive proteins such as ATF4 and CHOP. Subsequent induction of PPP1R15A recruits protein phosphatase 1 to dephosphorylate eIF2alpha, enabling recovery of normal translational activity once cellular homeostasis begins to return. Because of this central function, researchers frequently examine PPP1R15A together with markers of unfolded protein response signaling, endoplasmic reticulum stress, and protein quality control. A PPP1R15A Antibody is widely used to study these interconnected signaling pathways.

Altered PPP1R15A expression has been associated with numerous human diseases, including cancer, neurodegenerative disorders, inflammatory conditions, metabolic disease, ischemic injury, and viral infections. Changes in PPP1R15A activity can influence apoptosis, autophagy, immune signaling, protein homeostasis, and sensitivity to therapeutic agents through its effects on eIF2alpha phosphorylation. Many viruses also exploit PPP1R15A-mediated signaling to restore host protein synthesis and promote viral replication, making the protein an important focus of infectious disease research. As a result, PPP1R15A continues to attract interest as both a mechanistic biomarker and a potential therapeutic target across multiple fields of biomedical investigation.

PPP1R15A is commonly evaluated using Western blot, immunohistochemistry, immunofluorescence,

immunoprecipitation, and flow cytometry to characterize protein expression, intracellular localization, and regulation during cellular stress. Studies often pair PPP1R15A with antibodies against eIF2alpha, phospho-eIF2alpha, ATF4, CHOP, and protein phosphatase 1 to provide a comprehensive assessment of integrated stress response signaling. NSJ Bioreagents provides carefully validated antibodies for these research applications. A PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody is a valuable tool for investigating stress signaling, translational regulation, protein phosphatase function, and the molecular mechanisms that govern cellular adaptation and survival.

Visit our GADD34 Antibody / Stress Response Protein Antibody page to explore additional validated antibodies and research tools for investigating GADD34 biology, integrated stress response signaling, and translational regulation.

Application Notes

Optimal dilution of the PPP1R15A Antibody / Protein Phosphatase 1 Regulatory Subunit 15A Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids A574-E602) was used as the immunogen for the PPP1R15A antibody.

Storage

After reconstitution, the PPP1R15A 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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