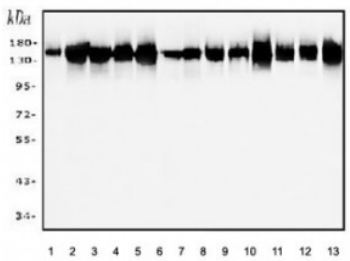
# PFAS Antibody / Phosphoribosylformylglycinamidine Synthase Antibody (RQ6391)

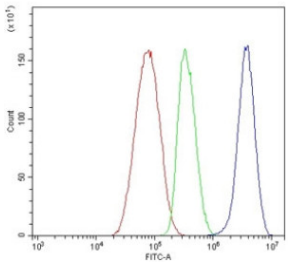
| Catalog No. | Formulation | Size |
|---|---|---|
| RQ6391 | 0.5mg/ml if reconstituted with 0.2ml sterile DI water | 100 ug |

**Bulk quote request**

| | |
|---|---|
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Polyclonal (rabbit origin) |
| **Isotype** | Rabbit IgG |
| **Purity** | Antigen affinity purified |
| **Buffer** | Lyophilized from 1X PBS with 2% Trehalose |
| **UniProt** | O15067 |
| **Localization** | Cytoplasmic |
| **Applications** | Western blot: 0.5-1ug/ml<br>Flow cytometry: 1-3ug/million cells<br>Direct ELISA: 0.1-0.5ug/ml |
| **Limitations** | This PFAS Antibody / Phosphoribosylformylglycinamidine Synthase Antibody is available for research use only. |




PFAS Antibody WB in Human and Rodent Samples. Western blot analysis of human placenta (lane 1), A549 (lane 2), HEK293 (lane 3), HeLa (lane 4), K562 (lane 5), U937 (lane 6), and HepG2 (lane 7) lysates; rat liver (lane 8), brain (lane 9), and testis (lane 10) lysates; and mouse liver (lane 11), brain (lane 12), and testis (lane 13) lysates using the Phosphoribosylformylglycinamidine Synthase Antibody. A prominent band is detected at approximately 145-160 kDa across all 13 samples, consistent with the predicted molecular weight of PFAS (~145 kDa).



Flow cytometry testing of PFA fixed and permeabilized human HepG2 cells with PFAS antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PFAS antibody.

## Description

PFAS Antibody / Phosphoribosylformylglycinamidine Synthase Antibody recognizes an enzyme involved in de novo purine nucleotide biosynthesis. The PFAS gene encodes phosphoribosylformylglycinamidine synthase, also known as FGAMS, which catalyzes the ATP-dependent conversion of formylglycinamide ribonucleotide (FGAR) to formylglycinamidine ribonucleotide (FGAM). This reaction represents the fourth step in the pathway leading to inosine monophosphate (IMP), a precursor required for the synthesis of adenine and guanine nucleotides.

PFAS belongs to the glutamine amidotransferase family and contains functional regions involved in glutamine hydrolysis and nucleotide intermediate modification. During catalysis, the enzyme generates ammonia from glutamine and transfers the nitrogen to FGAR, producing FGAM. This reaction consumes ATP and contributes to the construction of the purine ring. Because purine nucleotides are essential components of DNA, RNA, ATP, GTP, and numerous metabolic cofactors, PFAS participates in a biosynthetic pathway fundamental to cellular growth and metabolic activity.

De novo purine synthesis occurs primarily in the cytoplasm and is particularly important when nucleotide demand exceeds the capacity of salvage pathways. Under certain metabolic conditions, enzymes involved in this pathway can assemble into transient multienzyme structures known as purinosomes. PFAS is among the enzymes associated with these assemblies, which are thought to facilitate coordination of purine biosynthesis in response to cellular requirements. Purinosome formation is influenced by nutrient availability, metabolic signaling, and changes in the demand for nucleotide precursors.

PFAS activity contributes to the nucleotide supply needed for DNA replication, RNA transcription, and other processes that depend on purine-containing molecules. Alterations in de novo purine metabolism have been investigated in proliferating cells and cancer, where increased nucleotide synthesis can support sustained growth. Understanding PFAS function may therefore provide insight into metabolic regulation, purinosome organization, and the relationship between nucleotide availability and cellular proliferation. NSJ Bioreagents offers this PFAS Antibody for research examining a central enzymatic step in purine biosynthesis and its contribution to cellular nucleotide homeostasis.

Explore related proteins involved in nucleotide biosynthesis, metabolic regulation, and cellular energy metabolism in our Metabolism Antibodies collection.

## Application Notes

Optimal dilution of the PFAS Antibody / Phosphoribosylformylglycinamidine Synthase Antibody should be determined by the researcher.

## Immunogen

Recombinant human protein (amino acids R330-S569) was used as the immunogen for the PFAS antibody.

## Storage

After reconstitution, the PFAS 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

FGAMS antibody, Formylglycinamidine ribonucleotide synthase antibody, Phosphoribosylformylglycinamidine amidotransferase antibody, FGAR amidotransferase antibody


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