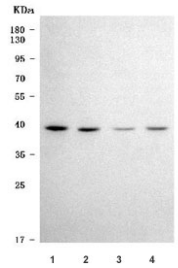
TRNAU1AP Antibody / SECp43 Antibody (RQ7590)

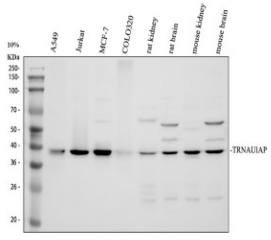
Catalog No.	Formulation	Size
RQ7590	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

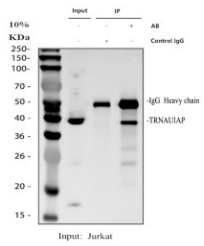
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9NX07
Applications	Western blot: 0.5-1ug/ml Immunoprecipitation: 2ug per 500ug of lysate Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This TRNAU1AP Antibody / SECp43 Antibody is available for research use only.



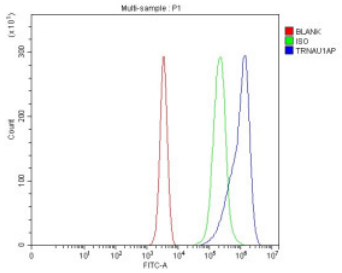
TRNAU1AP Antibody by WB in Four Human Cell Lines. Western blot analysis of human 293T (lane 1), Jurkat (lane 2), A549 (lane 3), and HeLa (lane 4) cell lysates using rabbit polyclonal TRNAU1AP antibody. The antibody detects a principal band at approximately 38 kDa in all four samples, consistent with the reported migration of SECp43. Signal intensity varies among the cell lines, with relatively strong bands in 293T and Jurkat, weaker detection in A549, and an intermediate signal in HeLa.



TRNAU1AP Antibody by WB in Human, Rat, and Mouse Samples. Western blot analysis of SECp43 in human A549 (lane 1), Jurkat (lane 2), MCF-7 (lane 3), and COLO320 (lane 4) cell lysates, rat kidney (lane 5), rat brain (lane 6), mouse kidney (lane 7), and mouse brain (lane 8) tissue lysates. Samples were separated by 10% SDS-PAGE under reducing conditions. The rabbit polyclonal antibody detects a principal band at approximately 38 kDa across all eight samples, compared with the calculated molecular weight of approximately 32.5 kDa. Additional higher-molecular-weight bands are visible in several samples.



TRNAU1AP Antibody by IP in Human Jurkat Cell Lysate. Immunoprecipitation of SECp43 from human Jurkat cell lysate using rabbit polyclonal TRNAU1AP antibody. The blot includes an input lysate (lane 1), a control IgG immunoprecipitation (lane 2), and an antibody-mediated immunoprecipitation (lane 3). A band at approximately 38 kDa is detected in the input and antibody IP lanes but is absent from the control IgG lane, supporting specific enrichment of TRNAU1AP. A prominent band near 50 kDa corresponds to the IgG heavy chain.



TRNAU1AP Antibody by FACS in Human Jurkat Cells. Flow cytometry analysis of fixed and permeabilized human Jurkat cells using rabbit polyclonal TRNAU1AP antibody. The SECp43 antibody-stained population (blue) exhibits a clear rightward fluorescence shift relative to the isotype control (green) and unstained cells (red). The distinct fluorescence distributions demonstrate intracellular detection of TRNAU1AP under the tested conditions.

Description

TRNAU1AP Antibody recognizes tRNA selenocysteine 1-associated protein 1 (TRNAU1AP), an RNA-binding protein commonly known as SECp43. This protein participates in the specialized machinery responsible for selenocysteine incorporation during protein synthesis. Selenocysteine is often described as the 21st genetically encoded amino acid and is incorporated into a select group of proteins known as selenoproteins. These proteins perform important functions in antioxidant defense, thyroid hormone metabolism, redox signaling, and cellular homeostasis.

Unlike conventional amino acids, selenocysteine is encoded by the UGA codon, which normally functions as a translation termination signal. Its incorporation requires a specialized transfer RNA, designated tRNA[Ser]Sec, along with dedicated translation factors and regulatory RNA elements. SECp43 was identified as a protein associated with selenocysteine-specific tRNA and has been investigated for its contribution to the organization and function of the selenoprotein synthesis machinery.

TRNAU1AP contains RNA-associated structural features that support interactions with components of the selenocysteine incorporation pathway. SECp43 has been reported to associate with selenocysteine tRNA and other proteins involved in the maturation and utilization of this specialized transfer RNA. Through these interactions, it may influence the availability or functional organization of tRNA[Ser]Sec during translation. The precise contribution of TRNAU1AP to individual steps of selenoprotein biosynthesis remains an area of investigation.

Selenoprotein production depends on coordinated interactions among tRNA[Ser]Sec, the selenocysteine-specific elongation factor EEFSEC, SECIS-binding protein 2 (SECISBP2), and specialized RNA structures known as selenocysteine insertion sequence elements. These components enable ribosomes to reinterpret selected UGA codons as signals for selenocysteine incorporation. SECp43 is associated with this broader regulatory network and has been studied in relation to selenocysteine tRNA metabolism and translation efficiency.

Because selenoproteins contribute to oxidative stress protection and metabolic regulation, proteins associated with their synthesis are relevant to research involving cellular redox balance, selenium biology, and translational control. Important selenoprotein families include glutathione peroxidases, thioredoxin reductases, and iodothyronine deiodinases. Changes in the efficiency of selenocysteine incorporation can influence the production of these proteins and potentially affect cellular responses to oxidative and metabolic stress.

TRNAU1AP has also been investigated in the context of RNA-protein interactions and the assembly of specialized translation-associated complexes. Its association with selenocysteine tRNA provides a connection between RNA

metabolism and the regulated synthesis of proteins containing this unusual amino acid. Understanding SECp43 function may help clarify how cells coordinate selenium availability, tRNA maturation, and translational machinery to maintain appropriate selenoprotein expression.

An TRNAU1AP Antibody from NSJ Bioreagents provides a research tool for investigating SECp43 and its involvement in selenocysteine tRNA metabolism, specialized translation, and selenoprotein biosynthesis.

Explore our Cell Biology Antibodies collection for additional research tools targeting RNA metabolism, protein synthesis, and other fundamental cellular processes.

Application Notes

Optimal dilution of the TRNAU1AP Antibody / SECp43 Antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids R21-E282) was used as the immunogen for the TRNAU1AP antibody.

Storage

After reconstitution, the TRNAU1AP 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

tRNA selenocysteine 1-associated protein 1 antibody, SECp43 antibody, tRNA selenocysteine-associated protein 1 antibody, Selenocysteine tRNA-associated protein antibody, tRNA[Ser]Sec-associated protein antibody

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