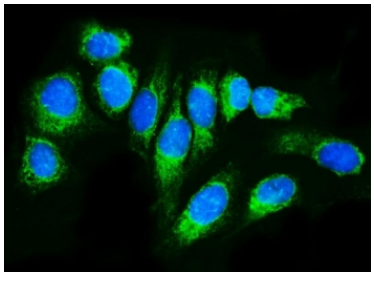
TRAP alpha Antibody / TRAPA / SSR1 (RQ6522)

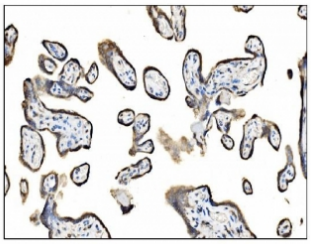
Catalog No.	Formulation	Size
RQ6522	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

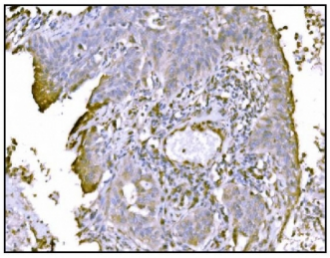
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Monkey
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P43307
Localization	Cytoplasmic
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml Immunoprecipitation: 2ug per 500ug of lysate
Limitations	This TRAP alpha antibody is available for research use only.



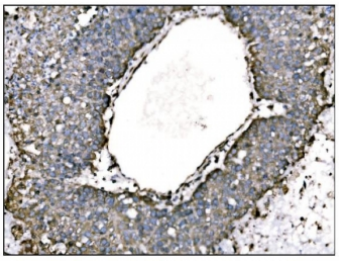
Immunofluorescent staining of FFPE human U-2 OS cells with TRAP alpha antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



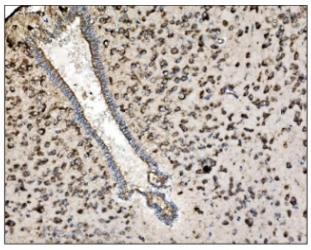
IHC staining of FFPE human placental tissue with TRAP alpha antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



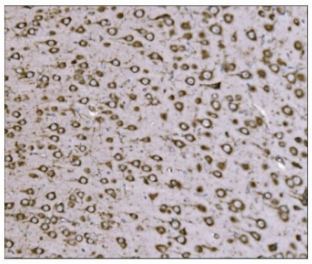
IHC staining of FFPE human lung cancer tissue with TRAP alpha antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



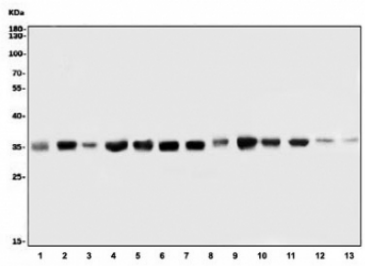
IHC staining of FFPE human liver cancer tissue with TRAP alpha antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



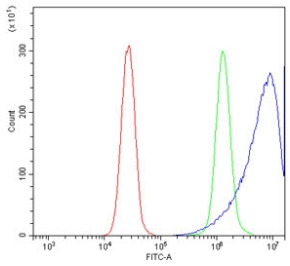
IHC staining of FFPE mouse brain tissue with TRAP alpha antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



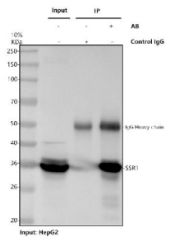
IHC staining of FFPE rat brain tissue with TRAP alpha antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) human A431, 2) human HL60, 3) human T-47D, 4) human HepG2, 5) monkey COS-7, 6) human HEK293, 7) human K562, 8) human U937, 9) rat liver, 10) rat stomach, 11) rat PC-12, 12) mouse liver and 13) mouse stomach lysate with TRAP alpha antibody. Expected molecular weight ~34 kDa.



Flow cytometry testing of human K562 cells with TRAP alpha antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= TRAP alpha antibody.



Immunoprecipitation of TRAP alpha protein from 500ug of human HepG2 whole cell lysate with 2ug of TRAP alpha antibody.

Description

TRAP alpha antibody targets Translocon-associated protein alpha (TRAP alpha), also known as TRAPA or Signal sequence receptor subunit 1 (SSR1), a core component of the endoplasmic reticulum translocon-associated protein complex. TRAP alpha is an integral membrane protein of the endoplasmic reticulum that plays a critical role in the co-translational translocation of nascent polypeptides into the ER lumen or membrane. By associating closely with the Sec61 translocon, TRAP alpha facilitates efficient signal peptide recognition and proper insertion of secretory and membrane proteins. The protein localizes predominantly to the ER membrane, consistent with its essential role in protein biosynthesis and trafficking.

Functionally, TRAP alpha supports the fidelity and efficiency of protein translocation, particularly for substrates with weak or atypical signal sequences. The TRAP complex, composed of multiple subunits including TRAP alpha, acts as a stabilizing and regulatory factor that ensures successful engagement of ribosome-nascent chain complexes with the ER translocation machinery. TRAP alpha expression is broadly observed across tissues, reflecting the universal requirement for ER-based protein synthesis in eukaryotic cells. A TRAP alpha antibody supports studies examining protein translocation and secretory pathway function.

TRAP alpha plays an important role in maintaining endoplasmic reticulum homeostasis and protein quality control. Disruption of TRAP alpha function can impair ER import of specific proteins, leading to accumulation of mislocalized or misfolded polypeptides and activation of cellular stress responses. These effects highlight the importance of TRAP alpha in coordinating protein synthesis with ER folding capacity and quality control mechanisms. A TRAP alpha antibody enables investigation of ER translocation efficiency and regulation under physiological and stress conditions.

From a biological and disease-relevance perspective, TRAP alpha and other translocon-associated components have been studied for their involvement in metabolic disease, immune function, and disorders linked to secretory pathway dysfunction. Altered TRAP alpha expression or activity can influence the production of hormones, cytokines, and membrane receptors, thereby impacting cell signaling and systemic physiology. Understanding TRAP alpha regulation provides insight into how cells adapt protein synthesis to changing functional demands.

At the molecular level, TRAP alpha is encoded by the SSR1 gene and produces a protein of approximately 286 amino acids. The protein contains luminal, transmembrane, and cytosolic regions that support its interaction with other TRAP subunits and the Sec61 complex. Regulation of TRAP alpha expression and stability is closely tied to cellular secretory load and ER functional state. A TRAP alpha antibody supports research applications focused on protein translocation, endoplasmic reticulum biology, and secretory pathway regulation, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the TRAP alpha antibody should be determined by the researcher.

Immunogen

An E. coli-derived human protein (amino acids E53-E286) was used as the immunogen for the TRAP alpha antibody.

Storage

After reconstitution, the TRAP alpha 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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