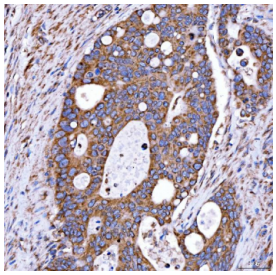
RAB7A Antibody / Ras-related protein Rab-7a (FY13430)

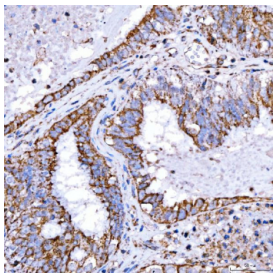
Catalog No.	Formulation	Size
FY13430	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

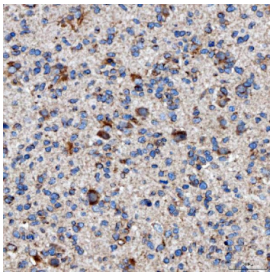
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4
UniProt	P51149
RRID	AB_3753508
Localization	Cytoplasm
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry: 2-5ug/ml Immunoprecipitation: 2ug per 500ug of lysate Flow cytometry: 1-3ug/million cells
Limitations	This RAB7A antibody is available for research use only.



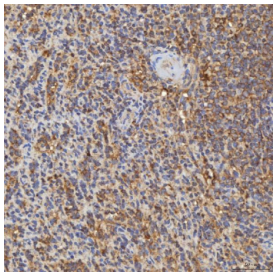
Immunohistochemical staining of FFPE human duodenal papilla adenocarcinoma tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



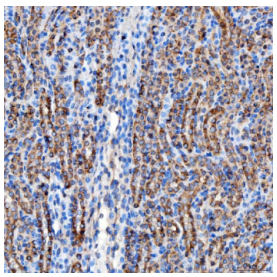
Immunohistochemical staining of FFPE human endometrioid adenocarcinoma tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



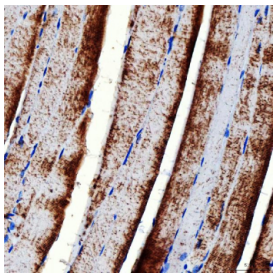
Immunohistochemical staining of FFPE human glioblastoma tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



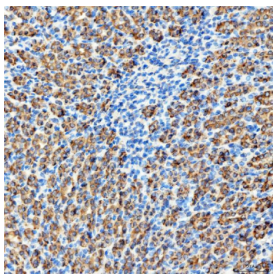
Immunohistochemical staining of FFPE human spleen tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



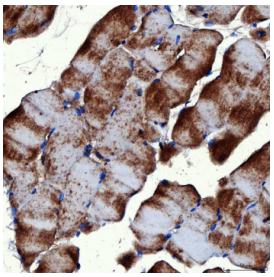
Immunohistochemical staining of FFPE mouse kidney tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



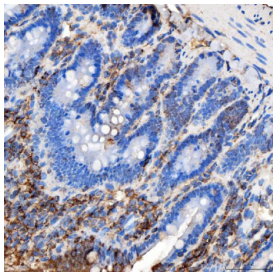
Immunohistochemical staining of FFPE mouse skeletal muscle tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



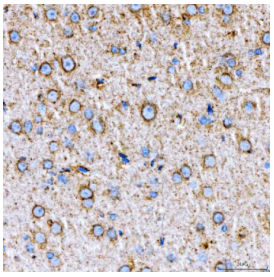
Immunohistochemical staining of FFPE rat kidney tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



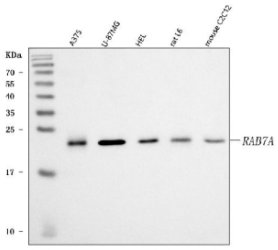
Immunohistochemical staining of FFPE rat skeletal muscle tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



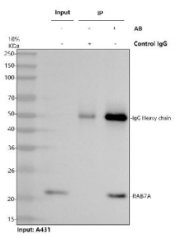
Immunohistochemical staining of FFPE rat colon tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



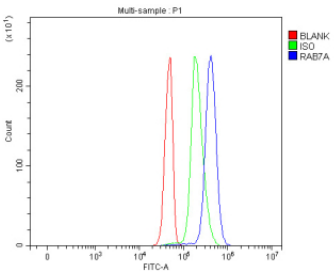
Immunohistochemical staining of FFPE rat brain tissue with RAB7A antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



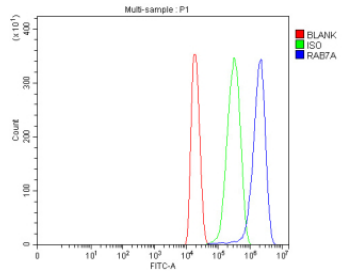
Western blot analysis using RAB7A antibody. Lane 1: human A375 whole cell lysates; Lane 2: human U-87MG whole cell lysates; Lane 3: human HEL whole cell lysates; Lane 4: rat L6 whole cell lysates; Lane 5: mouse C2C12 whole cell lysates. The predicted molecular weight of Ras-related protein Rab-7a is ~23 kDa, and a band is observed at the expected size.



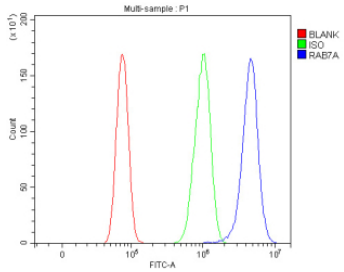
Immunoprecipitation of RAB7A protein from 500ug of human A431 whole cell lysate with 2ug of RAB7A antibody.



Flow cytometry analysis of fixed and permeabilized human Jurkat cells with RAB7A antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= RAB7A antibody.



Flow cytometry analysis of fixed and permeabilized human HEPA1-6 cells with RAB7A antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= RAB7A antibody.



Flow cytometry analysis of fixed and permeabilized human RH35 cells with RAB7A antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= RAB7A antibody.

Description

RAB7A antibody targets Ras-related protein Rab-7a, encoded by the RAB7A gene. Ras-related protein Rab-7a is a small GTP-binding protein that belongs to the Rab family of Ras-related GTPases and functions as a key regulator of late endocytic trafficking. Rab-7a is primarily localized to late endosomes and lysosomes, where it coordinates vesicle maturation, transport, and fusion events that are essential for intracellular cargo degradation and recycling. Through its dynamic association with intracellular membranes, Rab-7a plays a central role in maintaining endolysosomal system integrity.

Functionally, Ras-related protein Rab-7a controls the transition of early endosomes into late endosomes and promotes fusion of late endosomes with lysosomes. This activity ensures efficient delivery of endocytosed receptors, membrane proteins, and extracellular material to degradative compartments. Rab-7a cycles between an active GTP-bound state and an inactive GDP-bound state, allowing precise temporal regulation of vesicle trafficking. A RAB7A antibody supports studies focused on endosomal maturation, lysosomal function, and intracellular membrane dynamics.

RAB7A is widely expressed across tissues and cell types, reflecting the universal requirement for regulated endocytic transport in eukaryotic cells. High functional relevance is observed in metabolically active cells and neurons, where efficient turnover of membrane proteins and organelles is critical for cellular homeostasis. Rab-7a interacts with multiple effector proteins, including motor adaptors and tethering complexes, enabling long-range vesicle transport along microtubules and coordination of membrane fusion events. These interactions position Rab-7a as a central hub in late endocytic trafficking pathways.

From a disease-relevance perspective, dysregulation of RAB7A has been linked to neurodegenerative disease, lysosomal storage disorders, and defects in autophagy. Mutations in RAB7A are associated with Charcot-Marie-Tooth disease type 2B, a peripheral neuropathy characterized by impaired axonal transport and vesicle trafficking. Rab-7a dysfunction has also been studied in cancer biology and infectious disease, where pathogens exploit endocytic pathways to promote survival and replication. These associations underscore the importance of Rab-7a in cellular health and disease-associated trafficking defects.

At the molecular level, Ras-related protein Rab-7a undergoes post-translational prenylation, which is required for membrane association and proper subcellular localization. Regulatory factors such as guanine nucleotide exchange factors, GTPase-activating proteins, and GDP dissociation inhibitors fine-tune Rab-7a activity and trafficking behavior. These regulatory mechanisms can influence electrophoretic migration patterns on SDS-PAGE without implying changes in primary sequence. A RAB7A antibody supports research applications focused on endolysosomal biology, vesicle trafficking regulation, and disease-associated alterations in intracellular transport, with NSJ Bioreagents providing

reagents intended for research use.

Application Notes

Optimal dilution of the RAB7A antibody should be determined by the researcher.

Immunogen

E.coli-derived human Ras-related protein Rab-7a (amino acids K21-E177) was used as the immunogen for the RAB7A antibody.

Storage

After reconstitution, the RAB7A 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

Rab7 antibody, Ras Related Protein Rab-7a antibody, Small GTPase Rab7 antibody, Late Endosome GTPase antibody, RAB7 Protein antibody, YPT7 Related Protein antibody

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