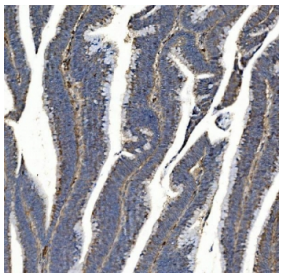
Synaptic vesicle glycoprotein 2A Antibody / SV2A (RQ6342)

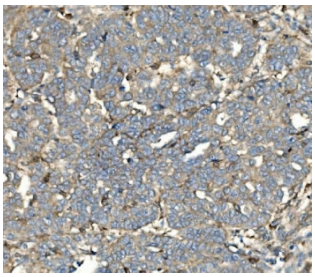
Catalog No.	Formulation	Size
RQ6342	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

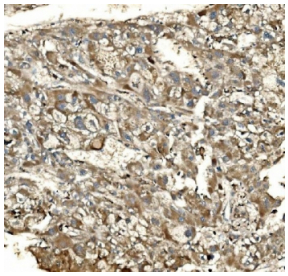
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q7L0J3
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This Synaptic vesicle glycoprotein 2A antibody is available for research use only.



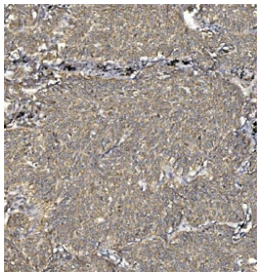
Immunohistochemistry of Synaptic vesicle glycoprotein 2A antibody in human rectal cancer tissue. FFPE human rectal carcinoma demonstrates cytoplasmic HRP-DAB brown staining within tumor epithelial cells, with membranous accentuation in gland-forming regions, consistent with SV2A localization in vesicular and secretory compartments. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA for 20 minutes followed by cooling prior to staining.



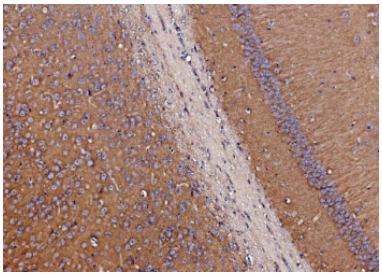
IHC staining of FFPE human ovarian serous adenocarcinoma with Synaptic vesicle glycoprotein 2A antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



IHC staining of FFPE human liver cancer tissue with Synaptic vesicle glycoprotein 2A antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

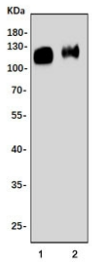


IHC staining of FFPE human lung cancer tissue with Synaptic vesicle glycoprotein 2A antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

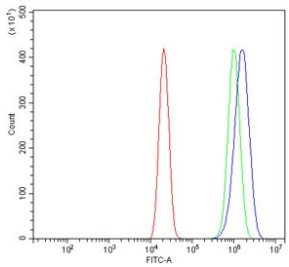


IHC staining of FFPE mouse brain tissue with Synaptic vesicle glycoprotein 2A antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

IHC staining of FFPE rat brain tissue with Synaptic vesicle glycoprotein 2A antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) rat brain and 2) mouse brain lysate with Synaptic vesicle glycoprotein 2A antibody. Predicted molecular weight ~83 kDa but may be observed at larger sizes due to glycosylation.



Flow cytometry testing of human U-2 OS cells with Synaptic vesicle glycoprotein 2A antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Synaptic vesicle glycoprotein 2A antibody.

Description

Synaptic vesicle glycoprotein 2A antibody recognizes SV2A, a multi-pass transmembrane protein encoded by the SV2A gene that localizes to synaptic vesicle membranes within presynaptic nerve terminals. SV2A is widely expressed throughout the central nervous system in both excitatory and inhibitory neurons, where it contributes to regulated neurotransmitter release and synaptic vesicle cycling. Synaptic vesicle glycoprotein 2A Antibody is developed to detect endogenous SV2A in research applications focused on synaptic transmission and neuronal integrity.

SV2A is a member of the synaptic vesicle glycoprotein family, which includes SV2A, SV2B, and SV2C. The protein contains multiple transmembrane domains and resides within the membrane of synaptic vesicles, where it is thought to regulate vesicle priming and calcium-dependent exocytosis. Although its precise molecular function remains under investigation, SV2A has been shown to influence neurotransmitter release probability and synaptic strength, making it a central regulator of presynaptic activity.

The SV2A gene is located on chromosome 1q21.3 and is highly enriched in brain regions with dense synaptic connectivity, including cortex, hippocampus, and cerebellum. In addition to neuronal expression, SV2A is detected at lower levels in certain endocrine and neuroendocrine tissues, reflecting its role in regulated secretory pathways beyond classical synapses. Altered SV2A expression has been associated with epilepsy and other neurologic conditions. Notably, Synaptic vesicle glycoprotein 2A serves as the molecular binding target of the antiepileptic drug levetiracetam, highlighting its translational significance in seizure research.

Because SV2A is consistently present in presynaptic terminals, it is frequently used as a marker of synaptic density and neuronal connectivity in studies of neurodevelopment, neurodegeneration, and brain injury. Changes in SV2A expression may reflect synaptic remodeling or loss in disease models and experimental systems.

By targeting SV2A, this antibody supports studies of synaptic vesicle biology, neurotransmitter release mechanisms, and neuronal network organization in both normal and disease-related contexts.

Application Notes

Optimal dilution of the Synaptic vesicle glycoprotein 2A antibody should be determined by the researcher.

Immunogen

Amino acids MEEGFRDRAAFIRGAKDIAKEVKKHAAKKVVK were used as the immunogen for the Synaptic vesicle glycoprotein 2A antibody.

Storage

After reconstitution, the Synaptic vesicle glycoprotein 2A antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Ordering: Phone: 858.663.9055 | Fax: 1.267.821.0800 | Email: info@nsjbio.com