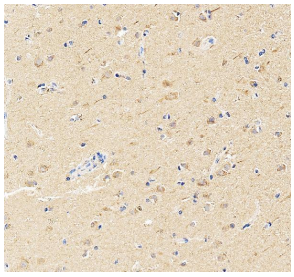
TRIM46 Antibody / Axon Initial Segment Protein Antibody (FY13464)

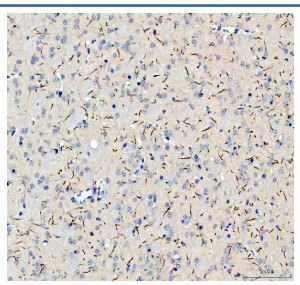
Catalog No.	Formulation	Size
FY13464	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

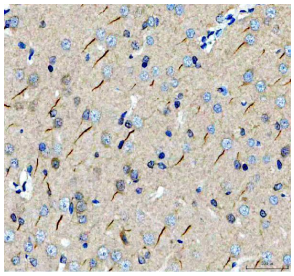
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purification
UniProt	Q7Z4K8
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This TRIM46 Antibody / Axon Initial Segment Protein Antibody is available for research use only.



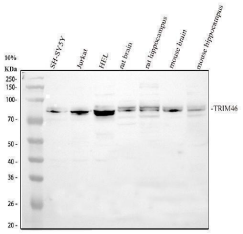
TRIM46 Antibody / Axon Initial Segment Protein Antibody Human Cerebral Cortex IHC. Immunohistochemical staining of FFPE human cerebral cortex tissue using TRIM46 Antibody / Axon Initial Segment Protein Antibody. TRIM46 expression is detected predominantly within neuronal processes and cell bodies, consistent with its role in organizing parallel microtubule bundles at the axon initial segment and establishing neuronal polarity. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (2 ug/ml) overnight at 4Â°C, followed by a peroxidase-conjugated goat anti-rabbit IgG secondary antibody. Immunoreactivity was visualized using an HRP Super Vision detection system with DAB as the chromogen.



TRIM46 Antibody / Axon Initial Segment Protein Antibody Mouse Brain IHC. Immunohistochemical staining of FFPE mouse brain tissue using TRIM46 Antibody / Axon Initial Segment Protein Antibody. TRIM46 expression is detected predominantly within neuronal processes, consistent with its localization to the axon initial segment where it organizes parallel microtubule bundles and establishes neuronal polarity. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (2 ug/ml) overnight at 4Â°C, followed by a peroxidase-conjugated goat anti-rabbit IgG secondary antibody. Immunoreactivity was visualized using an HRP Super Vision detection system with DAB as the chromogen.



TRIM46 Antibody / Axon Initial Segment Protein Antibody Rat Brain IHC. Immunohistochemical staining of FFPE rat brain tissue using TRIM46 Antibody / Axon Initial Segment Protein Antibody. TRIM46 expression is detected predominantly within axon initial segments of neurons, consistent with its role in organizing parallel microtubule bundles that establish neuronal polarity and support axonal identity. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer prior to staining. Tissue sections were blocked with 10% goat serum and incubated with the primary antibody (2 ug/ml) overnight at 4Â°C, followed by a peroxidase-conjugated goat anti-rabbit IgG secondary antibody. Immunoreactivity was visualized using an HRP Super Vision detection system with DAB as the chromogen.



TRIM46 Antibody / Axon Initial Segment Protein Antibody Human, Mouse and Rat WB. Western blot analysis of 1) human SH-SY5Y, 2) human Jurkat, 3) human HEL, 4) rat brain, 5) rat hippocampus, 6) mouse brain, and 7) mouse hippocampus lysates using TRIM46 Antibody / Axon Initial Segment Protein Antibody. A specific immunoreactive band is detected at approximately 83 kDa in all tested samples, consistent with the predicted molecular weight of TRIM46. These results demonstrate reliable detection of TRIM46, a neuron-associated microtubule-organizing protein that is essential for axon initial segment assembly and the establishment of neuronal polarity.

Description

TRIM46 Antibody / Axon Initial Segment Protein Antibody recognizes tripartite motif-containing protein 46 (TRIM46), a neuron-specific microtubule-associated protein that plays a critical role in establishing and maintaining the axon initial segment (AIS). Unlike many members of the TRIM protein family that primarily function as ubiquitin ligases, TRIM46 is best known for organizing parallel microtubule bundles that define axonal identity during neuronal polarization. This specialized activity is essential for the formation of the AIS, the region responsible for initiating action potentials and maintaining the functional distinction between axons and dendrites. Consequently, TRIM46 Antibody / Axon Initial Segment Protein Antibody is widely used to investigate neuronal development, axonal specification, and cytoskeletal organization.

TRIM46 localizes specifically to the proximal axon, where it promotes the formation of uniformly oriented microtubule bundles that recruit additional AIS proteins, including ankyrin G and voltage-gated ion channels. Through these interactions, TRIM46 contributes to the assembly of a highly specialized membrane domain that regulates neuronal excitability and directional signal propagation. Proper organization of the AIS is required for normal neuronal connectivity, intracellular transport, and maintenance of neuronal polarity throughout development and adulthood.

Disruption of TRIM46 expression or localization has been associated with impaired neuronal polarity, defective axon formation, altered synaptic function, and neurodevelopmental abnormalities. Because the axon initial segment is increasingly recognized as a dynamic structure that undergoes remodeling during neuronal plasticity and disease, TRIM46 has emerged as an important biomarker for studies of neurobiology, axonal injury, neurodegeneration, and nervous system development. Investigation of TRIM46 also provides insight into mechanisms governing microtubule organization and maintenance of neuronal architecture.

NSJ Bioreagents' TRIM46 Antibody / Axon Initial Segment Protein Antibody supports investigations into neuronal polarity, axon initial segment assembly, microtubule organization, neurodevelopment, cytoskeletal dynamics, and neurodegenerative disease. Reliable detection of TRIM46 enables researchers to study one of the principal proteins responsible for establishing axonal identity and maintaining the structural and functional organization of neurons.

Explore additional antibodies for axon development, neuronal polarity, and nervous system research on our Neuroscience Antibodies page.

Application Notes

Optimal dilution of the TRIM46 Antibody / Axon Initial Segment Protein Antibody should be determined by the researcher.

Immunogen

A synthetic partial protein derived from human Tripartite Motif Containing 46 protein (amino acids M24-D759) was used as the immunogen for the TRIM46 Antibody.

Storage

TRIM46 Antibody is stable at -20oC for one year from date of receipt. After reconstitution, at 4oC for one month. It can also be aliquoted and stored frozen at -20oC for six months. Avoid repeated freeze-thaw cycles.

Alternate Names

TRIM46 antibody, Tripartite Motif Containing 46 antibody, Axon Initial Segment Protein antibody, AIS Protein antibody, Neuronal Polarity Protein antibody, Tripartite Motif Protein 46 antibody