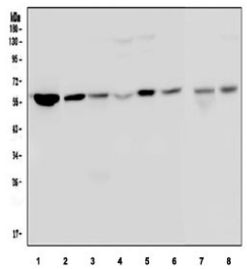
OPTN Antibody / Optineurin [clone 3D8] (RQ4945)

Catalog No.	Formulation	Size
RQ4945	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	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	3D8
Purity	Purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	Q96CV9
Applications	Western blot: 0.5-1ug/ml
Limitations	This OPTN antibody is available for research use only.



Western blot testing of 1) human U-87 MG, 2) human U-2 OS, 3) human placenta, 4) human HeLa, 5) human A549, 6) human K562, 7) rat C6 and 8) mouse Neuro-2a cell lysate with OPTN antibody. Expected molecular weight: 66-74 kDa depending on phosphorylation level.

Description

OPTN Antibody targets Optineurin, a multifunctional adaptor protein encoded by the OPTN gene that plays important roles in vesicular trafficking, autophagy, and cellular stress responses. Optineurin is widely expressed and is involved in coordinating signaling pathways that regulate intracellular transport and protein turnover. Through its adaptor functions, Optineurin integrates membrane trafficking events with signaling and degradation pathways that maintain cellular homeostasis.

Functionally, Optineurin acts as a scaffold protein that interacts with a variety of binding partners, including ubiquitinated cargo, motor proteins, and signaling molecules. One of its well-characterized roles is participation in selective autophagy, where Optineurin functions as an autophagy receptor that recognizes ubiquitinated substrates and links them to the autophagic machinery. A OPTN Antibody enables investigation of autophagy-related pathways, vesicle transport processes, and adaptor protein interactions in research settings.

Optineurin expression is observed in many tissues and cell types, consistent with its involvement in fundamental cellular processes. At the subcellular level, Optineurin localizes to the cytoplasm and is associated with vesicular structures, including endosomes and autophagosomes. Its localization can change in response to cellular stress or signaling events, reflecting its dynamic role in coordinating trafficking and degradation pathways. Altered distribution of Optineurin may indicate changes in autophagic activity or vesicle transport states.

At the molecular level, Optineurin contains multiple functional domains that mediate protein-protein interactions, including regions involved in ubiquitin binding and interactions with autophagy-related proteins. These structural features enable Optineurin to serve as a molecular bridge between ubiquitinated cargo and downstream effector pathways. Regulation of Optineurin activity involves post-translational modifications and interactions with signaling kinases that influence its adaptor functions and cellular localization.

From a biological and disease relevance perspective, OPTN has been extensively studied in the context of neurodegenerative and inflammatory diseases. Alterations in Optineurin expression or function have been linked to dysregulated autophagy, impaired vesicle trafficking, and abnormal stress responses. These disruptions can contribute to cellular dysfunction and disease-associated pathology, highlighting the importance of Optineurin in maintaining balanced intracellular homeostasis and regulated protein turnover.

OPTN Antibody reagents are valuable tools for studying autophagy regulation, vesicle trafficking mechanisms, and adaptor protein biology. These antibodies support research into intracellular transport, stress response pathways, and disease-associated alterations in cellular clearance systems. NSJ Bioreagents provides OPTN Antibody products intended for research use.

Application Notes

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

Immunogen

Amino acids R241-I577 from the human protein were used as the immunogen for the OPTN antibody.

Storage

After reconstitution, the OPTN 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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