EMC1 Antibody / ER membrane protein complex subunit 1 (FY12624)

Catalog No.	Formulation	Size
FY12624	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
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8N766
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This EMC1 antibody is available for research use only.

Description

EMC1 antibody detects ER membrane protein complex subunit 1, a structural component of the ER membrane protein complex (EMC) responsible for folding and insertion of transmembrane proteins. EMC1 acts as a scaffold stabilizing the entire complex and supports proper biogenesis of multipass membrane proteins. The EMC1 antibody is used in cell biology, proteostasis, and neurodevelopmental research to study membrane protein maturation and ER quality control.

EMC1 is encoded by the EMC1 gene located on human chromosome 1p36.13. The protein is approximately 993 amino acids long and localizes to the endoplasmic reticulum membrane, where it forms part of a 10-subunit complex including EMC2 through EMC10. EMC1 contains multiple transmembrane segments and luminal domains that interact with nascent polypeptides emerging from the ribosome-translocon system.

The EMC1 antibody detects a 115 kilodalton band by western blot and shows reticular ER staining under immunofluorescence microscopy. EMC1 facilitates the co-translational insertion and folding of membrane proteins, including G-protein coupled receptors, ion channels, and transporters. It also interacts with the ER-associated degradation (ERAD) machinery to remove misfolded proteins and prevent aggregation.

Mutations in EMC1 lead to congenital disorders involving neurodevelopmental delay, cerebellar atrophy, and visual impairment, highlighting its importance in neuronal function. In model systems, EMC1 loss disrupts ER morphology and mitochondrial contacts, leading to stress responses and apoptosis. EMC1 also contributes to cholesterol biosynthesis by ensuring proper insertion of enzymes involved in lipid metabolism.

Through its essential role in membrane protein biogenesis and ER stability, EMC1 is a cornerstone of cellular proteostasis. NSJ Bioreagents provides a validated EMC1 antibody optimized for western blot, immunofluorescence, and ER complex analysis, supporting studies of protein folding, ER homeostasis, and disease-associated misfolding mechanisms.

Application Notes

Optimal dilution of the EMC1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human KIAA0090/EMC1 recombinant protein (Position: Y23-R993) was used as the immunogen for the EMC1 antibody.

Storage

After reconstitution, the EMC1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.