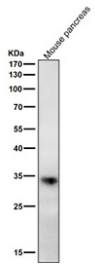
ERP27 Antibody / Endoplasmic reticulum resident protein 27 / TXNDC13 [clone 32E24] (FY13080)

Catalog No.	Formulation	Size
FY13080	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32E24
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q96DN0
Applications	Western blot: 1:500-1:2000 Immunohistochemistry: 1:50-1:200 Immunocytochemistry/Immunofluorescence: 1:50-1:200
Limitations	This ERP27 antibody is available for research use only.



Western blot testing of mouse pancreas tissue lysate with the ERP27 antibody at 1:2000 dilution for 1 hour at room temperature. A single band is detected at approximately 34 kDa, slightly above the predicted 30 kDa molecular weight. This shift is consistent with published data showing glycosylated, ER-localized forms of ERP27 migrating between 33-35 kDa. The observed band corresponds to the mature, post-translationally modified ERP27 protein.

Description

ERP27 antibody detects Endoplasmic reticulum resident protein 27, also called TXNDC13, encoded by the ERP27 gene. This protein belongs to the protein disulfide isomerase (PDI) family but is unique because it lacks catalytic cysteine residues required for disulfide bond formation. Instead, ERP27 functions as a non catalytic PDI family member that likely regulates protein folding through binding to unfolded substrates. ERP27 antibody provides a useful tool for studying protein folding, endoplasmic reticulum stress responses, and secretory pathway homeostasis.

Endoplasmic reticulum resident protein 27 is localized to the lumen of the endoplasmic reticulum, where it interacts with nascent polypeptides and folding intermediates. Although it lacks enzymatic activity, ERP27 binds to unfolded proteins, potentially presenting them to catalytic PDIs for isomerization. Research using ERP27 antibody has demonstrated that it contributes to quality control of protein folding, ensuring only properly folded proteins proceed through the secretory pathway. By acting as a chaperone like molecule, ERP27 complements enzymatic PDIs in maintaining proteostasis.

ERP27 is upregulated during conditions of endoplasmic reticulum stress, such as accumulation of unfolded proteins or perturbations in calcium homeostasis. Studies with ERP27 antibody have shown that its expression is regulated by the unfolded protein response, linking it to pathways that restore folding capacity and reduce stress. Dysregulation of ERP27 may contribute to diseases characterized by endoplasmic reticulum stress, including diabetes, neurodegeneration, and cancer. Understanding ERP27 expression and function helps clarify how cells cope with misfolded proteins and maintain secretory pathway fidelity.

In cancer, altered expression of endoplasmic reticulum chaperones influences tumor survival and progression. Research with ERP27 antibody has indicated that increased expression may provide tumor cells with resilience against proteotoxic stress, while reduced levels may impair secretory function. Its role in regulating folding efficiency positions ERP27 as an emerging factor in tumor biology and therapeutic resistance. Beyond cancer, ERP27 contributes to cellular stress adaptation across a wide range of tissues, including secretory cells of the pancreas and liver.

ERP27 antibody is widely applied in western blotting, immunohistochemistry, and immunofluorescence. Western blotting demonstrates induction under stress conditions, immunohistochemistry shows distribution in secretory tissues, and immunofluorescence confirms localization to the endoplasmic reticulum. These applications make ERP27 antibody valuable for research into protein folding, stress responses, and secretory pathway regulation.

By providing validated ERP27 antibody reagents, NSJ Bioreagents supports studies into protein folding, quality control, and disease. Detection of Endoplasmic reticulum resident protein 27 allows researchers to investigate how chaperone like proteins regulate proteostasis and contribute to pathology.

Application Notes

Optimal dilution of the ERP27 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human ERP27 was used as the immunogen for the ERP27 antibody.

Storage

Store the ERP27 antibody at -20oC.

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