

ER and Golgi-Associated Marker Proteins Antibody Sampler Kit



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1 Kit (5 x 20 microliters)

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For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Calnexin (C5C9) Rabbit mAb	2679	20 µl	90 kDa	Rabbit IgG
ERp72 (D70D12) XP [®] Rabbit mAb	5033	20 µl	72 kDa	Rabbit IgG
PDI (C81H6) Rabbit mAb	3501	20 µl	57 kDa	Rabbit
RCAS1 (D2B6N) XP [®] Rabbit mAb	12290	20 µl	32 kDa	Rabbit IgG
Syntaxin 6 (C34B2) Rabbit mAb	2869	20 µl	32 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The ER and Golgi-Associated Marker Proteins Antibody Sampler Kit contains reagents to examine proteins that help regulate protein folding and vesicle trafficking. This kit includes enough antibody to perform two western blot experiments with each primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Background

Secretory and transmembrane proteins are synthesized on polysomes and translocate into the endoplasmic reticulum (ER) where they are often modified by the formation of disulfide bonds, amino-linked glycosylation, and folding. The ER contains a pool of molecular chaperones to help proteins fold properly. Calnexin is a calcium-binding, ER membrane protein that ensures proper protein folding by retaining newly synthesized glycoproteins within the ER I (1-3). The specificity of calnexin for a subset of glycoproteins is defined by a lectin site, which binds an early oligosaccharide intermediate on the folding glycoprotein (3). Many secretory proteins require the formation of intra- or inter-molecular disulfide bonds to reach their native conformation (4). Protein disulfide isomerase (PDI) catalyzes the formation and isomerization of disulfide bonds during oxidative protein folding (5). The ER-protein Ero1 oxidizes PDI through disulfide exchange, which is followed by PDI-catalyzed disulfide bond formation in folding proteins (6). The ER stress protein 72 (ERp72) contains three thioredoxin homology domains and plays a role in the formation and isomerization of disulfide bonds (7,8).

The tumor-associated antigen RCAS1 negatively regulates cytotoxic T lymphocyte (CTL) cytolytic activity, which impacts vesicle formation, secretion, and protein glycosylation (9-12). Overexpression of RCAS1 impairs CTL cytolytic function by negatively regulating trans-Golgi to secretory lysosome protein trafficking, leading to a delay in ER to Golgi vesicle transport and mislocalization of ER quality control and glycosylation proteins. As a result, RCAS1 induces deposition of tumor-associated glycan antigens on the cell surface, which may contribute to tumor pathogenesis through the mediation of adhesion, invasion, and metastasis (13,14). Syntaxin 6 is a ubiquitously expressed S25C family member of the SNARE proteins (15,16) that is localized to the trans-Golgi and within endosomes. It regulates membrane trafficking by partnering with a variety of other SNARE proteins (17-19) and is involved in the regulation of GLUT4 trafficking, neutrophil exocytosis, and granule secretion (20-22).

Background References

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