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ER Protein Folding Antibody Sampler Kit

1 Kit (7 x 20 microliters)

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
BiP (C50B12) Rabbit mAb	3177	20 µl	78 kDa	Rabbit IgG
Ero1-La Antibody	3264	20 µl	60 kDa	Rabbit
ERp44 (D17A6) XP [®] Rabbit mAb	3798	20 µl	44 kDa	Rabbit IgG
ERp57 (G117) Antibody	2881	20 µl	57 kDa	Rabbit
ERp72 (D70D12) XP [®] Rabbit mAb	5033	20 µl	72 kDa	Rabbit IgG
Grp94 Antibody	2104	20 µl	100 kDa	Rabbit
PDI (C81H6) Rabbit mAb	3501	20 µl	57 kDa	Rabbit
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 Protein Folding Antibody Sampler Kit contains reagents to investigate the initiation of translation within the cell. The kit contains enough primary and secondary antibodies to perform two Western blot experiments per 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

After their synthesis, secretory proteins translocate into the endoplasmic reticulum (ER) where they are post-translationally modified and properly folded. To reach their native conformation, many secretory proteins require the formation of intra- or inter-molecular disulfide bonds (1). This process is called oxidative protein folding. Disulfide isomerase (PDI) catalyzes the formation and isomerization of these disulfide bonds (2). Studies on mechanisms of oxidative folding suggest that molecular oxygen oxidizes the ER-protein Ero1, which in turn oxidizes PDI through disulfide exchange (3). This event is then followed by PDI-catalyzed disulfide bond formation on folding proteins (3). Other ER resident proteins that possess the thioredoxin homology domains, including endoplasmic reticulum stress proteins 72, 57 and 44 (ERp72, ERp57 and ERp44), constitute the PDI family (4,5,6). The ER also contains a pool of molecular chaperones, including Grp94, to help proteins fold properly. Grp94 is a glucose-regulated protein (7) with sequence homology to Hsp90 (8). BiP is another chaperone whose synthesis is increased when protein folding is disturbed. BiP binds to misfolded proteins to prevent them from forming aggregates and assists in proper refolding (9).

Background References

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