Revision 3

Store at -20C

#3294

IRE1α (14C10) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IP	H M R	Endogenous	130	Rabbit IgG	#O75460	2081

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:50

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.

Specificity/Sensitivity

IRE1α (14C10) Rabbit mAb detects endogenous levels of total IRE1α protein.

Source / Purification

IRE1α (14C10) Rabbit mAb is produced by immunizing rabbits with a synthetic peptide corresponding to residues surrounding His963 of human IRE1α.

Background

The secretory, intra-organellar and transmembrane proteins translocate into the endoplasmic reticulum (ER) after their synthesis. Inside the ER, they are post-translationally modified and properly folded. Disruptions of ER homeostasis leads to the accumulation of unfolded proteins (1). The ER has developed an adaptive mechanism called unfolded protein response (UPR) to counteract compromised protein folding (1). One of the players in UPR, IRE1, was first identified in *Saccharomyces cerevisiae* as a transmembrane serine/threonine kinase (2-4). This kinase was proposed to be a proximal sensor for UPR that transmits the unfolded protein signal across the ER membrane (3,4). A human homolog of this kinase, IRE1α, was later identified and shown to be ubiquitously expressed in human tissues (5). Upon activation of UPR, IRE1α splices X-box binding protein (XBP1) mRNA by an unconventional mechanism using its endoribonuclease activity (6). This converts XBP1 into a potent transcriptional activator that induces many UPR responsive genes (6). Recently, IRE1α was shown to mediate the rapid degradation of certain mRNAs based on the ER-localization and primary sequences of their encoded proteins, suggesting a novel mechanism in UPR (7).

Background References

1. Kaufman, R.J. et al. (2002) *Nat Rev Mol Cell Biol* 3, 411-421.
2. Nikawa, J. and Yamashita, S. (1992) *Mol. Microbiol.* 6, 1441-1446.
3. Cox, J.S. et al. (1993) *Cell* 73, 1197-1206.
4. Mori, K. et al. (1993) *Cell* 74, 743-756.
5. Tirasophon, W. et al. (1998) *Genes Dev.* 12, 1812-1824.
6. Lee, K. et al. (2002) *Genes Dev.* 16, 452-466.
7. Hollien, J. and Weissman, J.S. (2006) *Science* 313, 104-107.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless

separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.