Revision 1

Store at -20C

#83418

XBP-1s Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	60 (human), 55 (mouse)	Rabbit	#O35426-2	22433

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

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

Specificity/Sensitivity

XBP-1s Antibody recognizes endogenous levels of total XBP-1s protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala361 of mouse XBP-1s protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Following protein synthesis, secretory, intra-organellar, and transmembrane proteins translocate into the endoplasmic reticulum (ER) where they are post-translationally modified and properly folded. The accumulation of unfolded proteins within the ER triggers an adaptive mechanism known as the unfolded protein response (UPR) that counteracts compromised protein folding (1). The transmembrane serine/threonine kinase IRE1, originally identified in *Saccharomyces cerevisiae*, is a proximal sensor for the UPR that transmits the unfolded protein signal across the ER membrane (2-4). The human homolog IRE1α was later identified and is ubiquitously expressed in human tissues (5). Upon activation of the unfolded protein response, IRE1α splices X-box binding protein 1 (XBP-1) mRNA through an unconventional mechanism using its endoribonuclease activity (6). This reaction converts XBP-1 from an unspliced XBP-1u isoform to the spliced XBP-1s isoform, which is a potent transcriptional activator that induces expression of many UPR responsive genes (6).

Background References

1. Kaufman, R.J. et al. (2002) *Nat Rev Mol Cell Biol* 3, 411-21.
2. Nikawa, J. and Yamashita, S. (1992) *Mol Microbiol* 6, 1441-6.
3. Cox, J.S. et al. (1993) *Cell* 73, 1197-206.
4. Mori, K. et al. (1993) *Cell* 74, 743-56.
5. Tirasophon, W. et al. (1998) *Genes Dev* 12, 1812-24.
6. Lee, K. et al. (2002) *Genes Dev* 16, 452-66.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

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

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Limited Uses

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