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#27901**XBP-1s (E8C2Z) Mouse mAb**
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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, IF-IC, FC-FP, ChIP, ChIP-seq	H	Endogenous	60	Mouse IgG1	#P17861-2	7494

**Product Usage Information**

For optimal ChIP and ChIP-seq results, use 2.5  $\mu$ l of antibody and 10  $\mu$ g of chromatin (approximately  $4 \times 10^6$  cells) per IP. This antibody has been validated using SimpleChIP<sup>®</sup> Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Immunofluorescence (Immunocytochemistry)	1:100 - 1:400
Flow Cytometry (Fixed/Permeabilized)	1:800 - 1:3200
Chromatin IP	1:200
Chromatin IP-seq	1:200

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #50436.

**Specificity/Sensitivity**

XBP-1s (E8C2Z) Mouse mAb recognizes endogenous levels of total XBP-1s protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala285 of human XBP-1s protein.

**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 IRE1 $\alpha$  was later identified and is ubiquitously expressed in human tissues (5). Upon activation of the unfolded protein response, IRE1 $\alpha$  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 BSA, 1X TBS, 0.1% Tween@ 20 at  $4^{\circ}\text{C}$  with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq

**Cross-Reactivity Key**

**H:** Human

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