X-Box-Binding Protein 1 (XBP1) Rat Recombinant Protein

PRODUCT OVERVIEW

Product Name	X-box-binding protein 1 (Xbp1), Recombinant Protein
Full Product Name	Recombinant Rat X-box-binding protein 1 (Xbp1)
Product Gene Name	Xbp1 recombinant protein
Product Synonym Gene Name	Xbp1
Sequence	MVVVAAAPSA ASAAPKVLLL SGQPASGGRA LPLMVPGPRA AGSEASGTPQ ARKRQRLTHL SPEEKALRRK LKNRVAAQTA RDRKKARMSE LEQQVVDLEE ENQKLQLENQ LLREKTHGLV IENQELRTRL GMNALVTEEV SEAESKGNGV RLVAGSAESA ALRLRAPLQQ VQAQLSPPQN IFPWILTLLP LQILSLISFW AFWTSWTLSC FSNVLPQSLL IWRNSQRSTQ KDLVPYQPPF LCQWGPHQPS WKPLMNSFVL TMYTPSL
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	29,665 Da
Sequence Positions	1-267, full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q9R1S4
Species	Rat
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Xbp1 recombinant protein	This gene encodes a transcription factor that regulates MHC class II genes by binding to a promoter element referred to as an X box. This gene product is a bZIP protein, which was also identified as a cellular transcription factor that binds to an enhancer in the promoter of the T cell leukemia virus type 1 promoter. It may increase expression of viral proteins by acting as the DNA binding partner of a viral transactivator. It has been found that upon accumulation of unfolded proteins in the endoplasmic reticulum (ER), the mRNA of this gene is processed to an active form by an unconventional splicing mechanism that is mediated by the endonuclease inositol-requiring enzyme 1 (IRE1). The resulting loss of 26 nt from the spliced mRNA causes a frame-shift and an isoform XBP1(S), which is the functionally active transcription factor. The isoform encoded by the unspliced mRNA, XBP1(U), is constitutively expressed, and thought to function as a negative feedback regulator of XBP1(S), which shuts off transcription of target genes during the recovery phase of ER stress. A pseudogene of XBP1 has been identified and localized to chromosome 5.
Other Notes	Small volumes of Xbp1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Xbp1 purchase	MBS1284984 is a recombinant protein targeting Xbp1. Also known as Recombinant Rat X-box-binding protein 1 (Xbp1). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Xbp1. It may not necessarily be applicable to this product.

NCBI GI #	51948392
NCBI GeneID	289754
NCBI Accession #	NP_001004210.1
UniProt Primary Accession #	Q9R1S4
UniProt Related Accession #	Q9R1S4
GenBank Nucleotide #	NM_001004210.2
NCBI Official Full Name	X-box-binding protein 1 isoform XBP1(U)
NCBI Official Synonym Full Names	X-box binding protein 1
NCBI Official Symbol	Xbp1
NCBI Official Synonym Symbols	HTF
UniProt Protein Name	X-box-binding protein 1
UniProt Synonym Protein Names	Hepatocarcinogenesis-related transcription factor; HTF
Protein Family	Transcriptional repressor
UniProt Gene Name	Xbp1
UniProt Synonym Gene Names	HTF
NCBI Protein Information	X-box-binding protein 1
NCBI Summary for Xbp1	transcription factor; regulates MHC class II genes by binding to an X-box promoter element; agents that cause the unfolded protein response upregulate transcription [RGD, Feb 2006]
UniProt Comments for Xbp1	Functions as a transcription factor during endoplasmic reticulum (ER) stress by regulating the unfolded protein response (UPR). Required for cardiac myogenesis and hepatogenesis during embryonic development, and the development of secretory tissues such as exocrine pancreas and salivary gland. Involved in terminal differentiation of B lymphocytes to plasma cells and production of immunoglobulins. Modulates the cellular response to ER stress in a PIK3R-dependent manner. Binds to the cis-acting X box present in the promoter regions of major histocompatibility complex class II genes. Involved in VEGF-induced endothelial cell (EC) proliferation and retinal blood vessel formation during embryonic development but also for angiogenesis in adult tissues under ischemic conditions. Functions also as a major regulator of the UPR in obesity-induced insulin resistance and type 2 diabetes for the management of obesity and diabetes prevention.
Research Articles on Xbp1	**1.** down-regulation of BRD7 attenuated HG-induced expression of CHOP via inhibiting nuclear translocation of XBP-1s without affecting the total expression of XBP-1s. In conclusion, inhibition of BRD7 appeared to protect against hyperglycaemia-induced cardiomyocyte apoptosis by inhibiting ER stress signalling pathway.
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