

Recombinant Rat XBP1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52604

Size: 10ug, 100ug

Protein Name: X-box-binding protein 1 (Hepatocarcinogenesis-related transcription factor) (HTF) [Cleaved into: X-box-binding protein 1, cytoplasmic form; X-box-binding protein 1, luminal form]

Synonym: Xbp1, Htf

UniProt ID: Q9R1S4

UniProt Link: www.uniprot.org/uniprotkb/Q9R1S4/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 267 AA

Molecular Weight: 30 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MVVVAAAPSAASAAPKVLLLSGQPASGGRALPLMVPGPRAAGSEASGTPQARKRQRLTHLSPEEKA
LRRKLKNRVAQAQTARDRKKARMSELEQQVVDLEEENQKLQLENQLLREKTHGLVIENQELRTRLGM
NALVTEEVSEAESKGNVRLVAGSAESAALRLRAPLQQVQAQLSPPQNIFPWILTLLPLQILSLISFWA
FWTSWTLSCFSNVLPQSLLIWRNSQRSTQKDLVPYQPPFLCQWGPHQPSWKPLMNSFVLTMYP
SL

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant X-box-binding protein 1 (Hepatocarcinogenesis-related transcription factor) (HTF) [Cleaved into: X-box-binding protein 1, cytoplasmic form; X-box-binding protein 1, luminal form] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: 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.; [Isoform 1]: Acts as a weak transcriptional factor. Together with HDAC3, contributes to the activation of NFE2L2-mediated HMOX1 transcription factor gene expression in a PI(3)K/mTORC2/Akt-dependent signaling pathway leading to EC survival under disturbed flow/oxidative stress. Binds to the ER stress response element (ERSE) upon ER stress. Binds to the consensus 5'-GATGACGTG[TG]N(3)[AT]T-3' sequence related to cAMP responsive element (CRE)-like sequences. Associates preferentially to the HDAC3 gene promoter region in a static flow-dependent manner. Binds to the CDH5/VE-cadherin gene promoter region.

Subcellular Localization: Nucleus . Endoplasmic reticulum . Note=Colocalizes with ERN1 and KDR in the endoplasmic reticulum in endothelial cells in a vascular endothelial growth factor (VEGF)-dependent manner. Colocalizes in the nucleus with SIRT1.; [Isoform 1]: Nucleus . Cytoplasm . Endoplasmic reticulum membrane ; Single-pass type II membrane protein . Endoplasmic reticulum membrane ; Peripheral membrane protein . Membrane ; Peripheral membrane protein . Note=Shows no preferential localization to either the nucleus or the cytoplasm. Shuttles between the nucleus and the cytoplasm in a CRM1-dependent manner. Localizes predominantly at the endoplasmic reticulum membrane as a membrane-spanning protein; whereas may be only marginally localized on the cytosolic side of the ER membrane as a peripheral membrane.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.