

Human 4E-BP1 / EIF4EBP1 Protein (His Tag)

Catalog Number: 10022-H07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

4E-BP1, EIF4EBP1, BP-1, MGC4316, PHAS-I

Protein Construction:

A DNA sequence encoding the human 4EBP1 (NP_004086.1) (Ser 2-Ile 118) with a N-terminal polyhistidine tag was expressed.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The secreted recombinant human 4EBP1 comprises 124 amino acids with a predicted molecular mass of 13.4 kDa. It migrates as an approximately 19 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, 10% glycerol

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

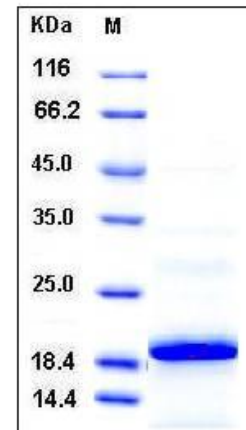
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Eukaryotic translation initiation factor 4E-binding protein 1, also known as Phosphorylated heat- and acid-stable protein regulated by insulin 1, 4E-BP1, eIF4E-binding protein 1 and EIF4EBP1, belongs to the eIF4E-binding protein family. EIF4EBP1 / 4E-BP1 regulates eIF4E activity by preventing its assembly into the eIF4F complex. It mediates the regulation of protein translation by hormones, growth factors and other stimuli that signal through the MAP kinase and mTORC1 pathways. Nonphosphorylated EIF4EBP1 / 4E-BP1 competes with EIF4G1/EIF4G3 to interact with EIF4E. Insulin stimulated MAP-kinase (MAPK1 and MAPK3) or mTORC1 phosphorylation of EIF4EBP1 causes dissociation of the complex allowing EIF4G1/EIF4G3 to bind and consequent initiation of translation. It interacts with RPTOR as well. Endoplasmic reticulum (ER) stress-mediated apoptosis may play a crucial role in loss of pancreatic beta cell mass, contributing to the development of diabetes. Induction of EIF4EBP1 / 4E-BP1, the suppressor of the mRNA 5' cap-binding protein eukaryotic initiation factor 4E (eIF4E), is involved in beta cell survival under ER stress. EIF4EBP1 / 4E-BP1 induction contributes to the maintenance of beta cell homeostasis during ER stress and is a potential therapeutic target for diabetes.

References

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3. Molina H., et al., 2007, Proc. Natl. Acad. Sci. USA. 104: 2199-204.
4. Yamaguchi, S. et al., 2008, Cell Metab. 7 (3): 269-76.
5. Gao, H. et al., 2009, Biol Reprod. 81 (1): 87-100.

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