Mouse Anti-Human Eukaryotic Translation Initiation Factor 4E Binding Protein 1 Monoclonal Antibody

Cat. No. CAB11529MH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Mouse Monoclonal Antibody to Human Eukaryotic Translation Initiation Factor 4E Binding Protein 1
Species	Human
Source	Mouse
Antigen 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

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	diabetes.
Specificity	Human 4E-BP1 / EIF4EBP1. No cross-reactivity in ELISA with E.coli cell lysate
Immunogen	Recombinant Human 4E-BP1 / EIF4EBP1 Protein
Isotype	Mouse IgG1
Clone	6G4H10
Applications	WB; ELISA
Dilution	Western blot : This antibody can be used at 1-2 µg/mL with the appropriate secondary reagents to detect 4EBP1 in WB. Using a DAB detection system, the detection limit for 4EBP1 is approximately 8 ng/lane under non-reducing conditions and 50 ng/lane under reducing conditions.ELISA : This antibody can be used at 0.5-1 µg/mL with the appropriate secondary reagents to detect 4EBP1. The detection limit for 4EBP1 is approximately 0.0195 ng/well.
Preparation	This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, human cell-derived, recombinant Human 4E-BP1 / EIF4EBP1. The IgG fraction of the cell culture supernatant was purified by Protein A affinity chromatography
Format	0.2 µm filtered solution in PBS with 5% trehalose
Storage	This antibody can be stored at 2-8 °C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20 to -70°C. Preservative-Free.Sodium azide is recommended to avoid contamination (final concentration 0.05%-0.1%). It is toxic to cells and should be

	disposed of properly. Avoid repeated freeze-thaw cycles.

GENE INFORMATION

Gene Name	EIF4EBP1 eukaryotic translation initiation factor 4E binding protein 1 [Homo sapiens]
Official Symbol	EIF4EBP1
Synonyms	EIF4EBP1; eukaryotic translation initiation factor 4E binding protein 1; eukaryotic translation initiation factor 4E-binding protein 1; 4E BP1; PHAS I; phosphorylated heatand acid stable protein regulated by insulin 1; eIF4E-binding protein 1; phosphorylated heat- and acid-stable protein regulated by insulin 1; BP-1; 4EBP1; 4E-BP1; PHAS-I; MGC4316;
Gene ID	1978
mRNA Refseq	NM_004095
Protein Refseq	NP_004086
MIM	602223
UniProt ID	Q13541
Chromosome Location	8p12
Pathway	AMPK signaling, organism-specific biosystem; Activation of the mRNA upon binding of the cap-binding complex and eIFs, and subsequent binding to 43S, organism-specific biosystem; Acute myeloid leukemia, organism-specific biosystem; Acute

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	myeloid leukemia, conserved biosystem; Alpha6-Beta4 Integrin Signaling Pathway, organism-specific biosystem; Cap-dependent Translation Initiation, organism-specific biosystem; ErbB signaling pathway, organism-specific biosystem;
Function	eukaryotic initiation factor 4E binding; protein binding;

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