10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

EIF1 Blocking Peptide (Center)

Synthetic peptide
Catalog # BP21971c

Specification

EIF1 Blocking Peptide (Center) - Product Information

Primary Accession	P41567
Other Accession	O60739, Q4R4X9, Q9CXU9, P61220, Q5E938, P51971, P48024, Q5RFF4

EIF1 Blocking Peptide (Center) - Additional Information

Gene ID 10209

Other Names
Eukaryotic translation initiation factor 1, eIF1, A121, Protein translation factor SUI1 homolog, Sui1iso1, EIF1, SUI1

Target/Specificity
The synthetic peptide sequence is selected from aa 51-61 of HUMAN EIF1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

EIF1 Blocking Peptide (Center) - Protein Information

Name EIF1

Synonyms SUI1

Function
Component of the 43S pre-initiation complex (43S PIC), which binds to the mRNA cap-proximal region, scans mRNA 5'-untranslated region, and locates the initiation codon (PubMed:9732867, PubMed:12435632, PubMed:14600024). Together with eIF1A (EIF1AX), EIF1 facilitates scanning and is essential for start codon recognition on the basis of AUG nucleotide context and location relative to the 5'-cap (PubMed:9732867, PubMed:12435632, PubMed:14600024). Participates

to initiation codon selection by influencing the conformation of the 40S ribosomal subunit and the positions of bound mRNA and initiator tRNA; this is possible after its binding to the interface surface of the platform of the 40S ribosomal subunit close to the P-site (PubMed:14600024). Together with eIF1A (EIF1AX), also regulates the opening and closing of the mRNA binding channel, which ensures mRNA recruitment, scanning and the fidelity of initiation codon selection (PubMed:9732867). Continuously monitors and protects against premature and partial base-pairing of codons in the 5'-UTR with the anticodon of initiator tRNA (PubMed:9732867, PubMed:12435632). Together with eIF1A (EIF1AX), acts for ribosomal scanning, promotion of the assembly of 48S complex at the initiation codon (43S PIC becomes 48S PIC after the start codon is reached), and dissociation of aberrant complexes (PubMed:9732867). Interacts with EIF4G1, which in a mutual exclusive interaction associates either with EIF1 or with EIF4E on a common binding site (PubMed:29987188). EIF4G1-EIF1 complex promotes ribosome scanning (on both short and long 5'UTR), leaky scanning (on short 5'UTR) which is the bypass of the initial start codon, and discrimination against cap-proximal AUG (PubMed:29987188). Is probably maintained within the 43S PIC in open conformation thanks to eIF1A-EIF5 interaction (PubMed:24319994). Once the correct start codon is reached, EIF1 is physically excluded from the decoding site, shifting the PIC into the closed conformation and arresting it at the start codon (PubMed:22813744).

Cellular Location
Cytoplasm.

EIF1 Blocking Peptide (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

EIF1 Blocking Peptide (Center) - Images

EIF1 Blocking Peptide (Center) - Background

Necessary for scanning and involved in initiation site selection. Promotes the assembly of 48S ribosomal complexes at the authentic initiation codon of a conventional capped mRNA.

EIF1 Blocking Peptide (Center) - References

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Singh S.K.,et al.Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
Sheikh M.S.,et al.J. Biol. Chem. 274:16487-16493(1999).
Mendell J.T.,et al.Mol. Cell. Biol. 20:8944-8957(2000).
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