

PRODUCT INFORMATION

elf4E (human recombinant; His-tagged)

Item No. 25150

Overview and Properties

Synonyms:	Eukaryotic Translation Initiation Factor 4E, mRNA Cap-binding Protein
Source:	N-terminal hexahistidine-tagged enzyme isolated from <i>E. coli</i>
Amino acids:	2-217 (full length)
Uniprot No.:	P06730
Molecular Weight:	27.19 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	batch specific (≥80% estimated by SDS-PAGE)
Supplied in:	50 mM sodium phosphate, pH 7.4, 2 mM DTT, and 20% glycerol
Protein	
Concentration:	batch specific mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Marker
 Lane 2: elf4E (human recombinant; His-tagged) (2 µg)
 Lane 3: elf4E (human recombinant; His-tagged) (4 µg)

Representative gel image shown; actual purity may vary between each batch.

WARNING
 THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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Description

Eukaryotic translation initiation factor 4E (eIF4E) is a component of the eIF4 complex that specifically binds to the methyl-7-guanosine cap structure at the 5' end of eukaryotic mRNA to initiate translation.¹⁻³ Nuclear eIF4E promotes export of mRNAs that contain the eIF4E sensitivity element (4E-SE) to the cytosol while cytosolic eIF4E, in a complex with eIF4A and eIF4G1/eIF4G3, mediates recruitment of mRNAs to the ribosome to initiate cap-dependent translation.^{3,4} eIF14E activity is regulated by eukaryotic translation initiation factor 4E-binding proteins (4E-BPs), which bind eIF4E to prevent eIF4 complex assembly and subsequent translation.³ Overexpression of eIF4E is observed in approximately 30% of human malignancies, including breast, colon, and head and neck carcinomas, and acute myeloid leukemias, particularly M4 and M5 subtypes, as well as prostate cancers.^{3,5,6} Increased eIF4E expression leads to increased translation of oncogenic mRNAs, such as those encoding VEGF and cyclin D1, and contributes to cancer cell survival and proliferation.

References

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