eIF4E – Human (Recombinant)

Catalogue No.	Activity	Pack Size	Expression Host
PP002Hu-Ac	Active	500 µg	E. coli
PP002Hu-In	Inactive	1.5 mg	E. coli

Product Description

Eukaryotic translation initiation factor 4E, or eIF4E, is part of the eukaryotic translation initiation complex eIF4F. eIF4E plays a key role in regulating translation initiation through its recognition and binding of the 7-methylguanosine (m^7GTP) cap found at the 5' end of mRNA[1]. This allows the recruitment of ribosomes to the 5' cap structure[2]. In cancer, increased levels of eIF4E are correlated with poor prognosis[3,4]. eIF4E is regulated at the RNA and protein level. This is achieved through changes in gene expression, RNA stability, protein phosphorylation, subcellular localization and through interactions with binding proteins such as 4E-BPs[5].

The active version of this product (Cat No. **PP002Hu-Ac**) is suitable for binding studies[6].

References:

1. *Gingras AC, Raught B & Sonenberg N, 1999, Annu. Rev. Biochem. 68:913–963*
2. *Rhoads RE, 1988, Trends Biochem Sci. 13:52-6*
3. *Montanaro L, Pandolfi PP, 2004, Cell Cycle. 3:1387-9*
4. *Urtishak, KA et al., 2019, Oncogene. 38 (13):2241-2262*
5. *Richter JD; Sonenberg N, 2005, Nature. 433 (7025):477–480*
6. *Frosi, Y et al. 2022, RSC Chem. Biol. 3 (7):916-930*

Specifications

Feature	Specification
Species	Human
Accession number	NCBI Reference Sequence: NM_001968.5 UniProtKB: P06730
Protein Details	Refolded full length human eukaryotic translation initiation factor 4E (human eIF4E)
Tags	None
Expression Host	*E. coli*
Endotoxin	Regular batch (no endotoxin removal)
Activity	PP002Hu-Ac: Active in biophysical assays. PP002Hu-In: Not active.
Stability & Storage	Stored at -80°C upon receipt. Avoid repeated freeze-thaw cycles.
Molecular Weight	Calculated mass: 25.13 kDa Approximate SDS-PAGE migration under reducing conditions: 25 kDa
Formulation	20 mM Hepes-KOH pH 7.6, 1 mM DTT, KCl concentration variable (190 - 300mM)
Shipping	Frozen on dry ice.

Quality Controls

Name	Description
Bradford Assay	The concentration of each lot of ranges between 5 mg/mL - 6mg/mL
Protein Purity	PP002Hu-Ac: Each lot is ≥95% pure as determined by SDS-PAGE analysis using Coomassie blue detection. PP002Hu-In: Each lot is ≥80% pure as determined by SDS-PAGE analysis using Coomassie blue detection.

Applications

Type	Notes (if any)
SDS-PAGE	PP002Hu-Ac & PP002Hu-In
Biophysical Assays	PP002Hu-Ac only: SPR, ITC, FP
Crystallization studies	PP002Hu-Ac only: Please contact us

Technical support

If you are experiencing difficulties with the reagent, please contact our team with relevant information at infoab@abasiabiolabs.com.