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[Marker Primary Antibody]

Rabbit Anti-eIF4E/FITC Conjugated antibody

Catalog Number: SL4979R-FITC

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-eIF4E/FITC
Immunogen:	KLH conjugated synthetic peptide derived from human eIF4E
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	ICC=1:50-200 IF=1:50-200 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse,Rat
Background:	background: eIF4E, a protein modulates translation of maternal mRNAs in early embryos before the onset of zygotic transcription. eIF4E also influences the overall rate of translation. eIF4E binds to the 7 methyl GTP cap structure of eukaryotic mRNAs. Phosphorylation of eIF4E on serine 209 regulates the affinity of this protein for the 7 methyl GTP cap and/or RNA. Phosphorylation also enhances the interaction of eIF4E with eIF4G, which form a complex known as eIF4F. eIF4E phosphorylation is correlated with increased translational rate in a number of cell types. Several kinases are currently being investigated as potential regulators of eIF4E including PKC and/or the MAP kinase activated Mnk. **Function:** Its translation stimulation activity is repressed by binding to the complex CYFIP1-FMR1 (By similarity). Recognizes and binds the 7-methylguanosine-containing mRNA cap during an early step in the initiation of protein synthesis and facilitates ribosome binding by inducing the unwinding of the mRNAs secondary structures. Component of the CYFIP1-

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	EIF4E-FMR1 complex which binds to the mRNA cap and mediates translational repression. In the CYFIP1-EIF4E-FMR1 complex this subunit mediates the binding to the mRNA cap. **Subunit:** eIF4F is a multi-subunit complex, the composition of which varies with external and internal environmental conditions. It is composed of at least EIF4A, EIF4E and EIF4G1/EIF4G3. EIF4E is also known to interact with other partners. The interaction with EIF4ENIF1 mediates the import into the nucleus. Nonphosphorylated EIF4EBP1, EIF4EBP2 and EIF4EBP3 compete with EIF4G1/EIF4G3 to interact with EIF4E; insulin stimulated MAP-kinase (MAPK1 and MAPK3) phosphorylation of EIF4EBP1 causes dissociation of the complex allowing EIF4G1/EIF4G3 to bind and consequent initiation of translation. Rapamycin can attenuate insulin stimulation, mediated by FKBPs. Interacts mutually exclusive with EIF4A1 or EIF4A2. Interacts with NGDN and PIWIL2. Component of the CYFIP1-EIF4E-FMR1 complex composed of CYFIP, EIF4E and FMR1. Interacts directly with CYFIP1 (By similarity). Interacts with Lassa virus Z protein. Binds to MKNK2 in nucleus. Interacts with LIMD1, WTIP and AJUBA. **Subcellular Location:** Cytoplasm, P-body. **Post-translational modifications:** Phosphorylation increases the ability of the protein to bind to mRNA caps and to form the eIF4F complex. **Similarity:** Belongs to the eukaryotic initiation factor 4E family. **Database links:** **Entrez Gene:** 1977 Human **Entrez Gene:** 13684 Mouse **Entrez Gene:** 117045 Rat Omim: 133440 Human **SwissProt:** P06730 Human **SwissProt:** P63073 Mouse **SwissProt:** P63074 Rat **Unigene:** 249718 Human **Unigene:** 3941 Mouse **Unigene:** 11275 Rat Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. Eukaryotic translation initiation factor 4E-EIF4E is a major regulatory factor in protein synthesis; increased expression of EIF4E promotes the proliferation and differentiation of various Tumour growth, therefore EIF4E is a very

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	important anti-cancer drug target. eIF-4E is a eukaryotic translation initiation factor involved in the binding of ribosomes to the mRNA cap structure. It exists in two forms: a free form (25kDa) and as a component of the multiprotein complex eIF-4F. eIF-4E is the least abundant initiation factor, involved in the rate-limiting step of translation initiation, and phosphorylation regulates protein biosynthesis.

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