

PRODUCT INFORMATION



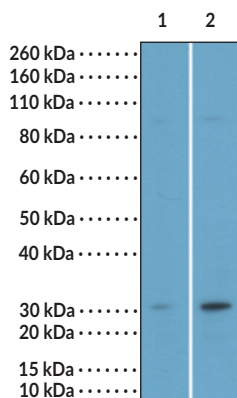
eIF4E (Phospho-Ser²⁰⁹) Rabbit Monoclonal Antibody

Item No. 35903

Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Eukaryotic Translation Initiation Factor 4E, mRNA Cap-binding Protein
Immunogen:	Peptide corresponding to human eIF4E (phospho-Ser ²⁰⁹)
Cross Reactivity:	(+) eIF4E (phospho-Ser ²⁰⁹); (-) eIF4E without phosphorylation at Ser ²⁰⁹
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM452
Host:	Rabbit
Isotype:	IgG
Applications:	Western blot (WB); the recommended starting dilution is 1:1,000 -1:2,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: MCF-7 cells untreated
Lane 2: MCF-7 cells treated

WB of MCF-7 cells treated with fetal bovine serum using eIF4E (Phospho-Ser²⁰⁹) Rabbit Monoclonal Antibody (Clone RM452) at a dilution of 1:1,000.

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
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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 It is composed of an α/β domain containing one short and three long α -helices and an antiparallel β -sheet.¹ eIF4E is ubiquitously expressed and localized to the nucleus and cytoplasm.⁴ 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.^{1,3} eIF4E activity is regulated by eIF4E-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 myelomonocytic M4 and monocytic 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. Phosphorylation of eIF4E at serine 209 (Ser²⁰⁹) is associated with tumor progression and reduced survival in patients with malignant melanoma, and pharmacologic inhibition of eIF4E phosphorylation is selectively cytotoxic to cancer cells.^{7,8} Cayman's eIF4E (Phospho-Ser²⁰⁹) Rabbit Monoclonal Antibody (Clone RM452) can be used for Western blot (WB) applications.

References

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