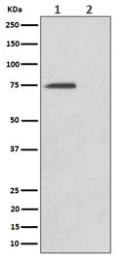
Phospho-eIF4B Ser406 Antibody 29E04 / EIF4B Phospho Ser406 Monoclonal Antibody [clone 29E04] (RQ8762)

Catalog No.	Formulation	Size
RQ8762	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	29E04
Purity	Affinity chromatography
UniProt	P23588
Applications	Western blot: 1:500-1:2000
Limitations	This Phospho-eIF4B Ser406 Antibody 29E04 / EIF4B Phospho Ser406 Monoclonal Antibody is available for research use only.



Phospho-eIF4B Ser406 Antibody 29E04 WB Analysis of Untreated and Alkaline Phosphatase-Treated HeLa Cells. Western blot analysis of human HeLa cell lysates, untreated (lane 1) or treated with alkaline phosphatase (lane 2), using EIF4B Phospho Ser406 Monoclonal Antibody clone 29E04. An immunoreactive band near 80 kDa is detected in untreated lysate and is absent following alkaline phosphatase treatment, supporting phosphorylation-dependent recognition of EIF4B at Ser406.

Description

Phospho-eIF4B Ser406 Antibody 29E04 / EIF4B Phospho Ser406 Monoclonal Antibody targets eukaryotic translation initiation factor 4B (eIF4B) when phosphorylated at serine 406. EIF4B is an RNA-binding protein that promotes translation initiation by facilitating the recruitment and scanning of ribosomal complexes along messenger RNA. Its activity is particularly important for transcripts containing structured 5' untranslated regions, which can interfere with efficient translation initiation and require additional RNA remodeling.

EIF4B cooperates with eukaryotic initiation factor 4A (eIF4A), an ATP-dependent RNA helicase that unwinds secondary structures within mRNA. EIF4B enhances eIF4A activity and supports the movement of the translation initiation machinery toward the start codon. Through these interactions, EIF4B contributes to the regulation of protein synthesis in response to growth signals, nutrient availability, and cellular stress.

Phosphorylation provides an important mechanism for regulating EIF4B function. Ser406 and Ser422 are established phosphorylation sites associated with signaling pathways that control translation initiation. Ser422 phosphorylation is regulated by kinases including p70 S6 kinase and p90 ribosomal S6 kinase, connecting EIF4B activity to mTOR-dependent and mitogen-responsive signaling. Ser406 phosphorylation has also been implicated in regulating EIF4B function and its interactions with components of the translation initiation machinery. These modifications contribute to the coordination of translational activity with cellular signaling conditions.

EIF4B phosphorylation is relevant to the selective translation of mRNAs encoding proteins involved in proliferation, survival, and cellular adaptation. Dysregulated signaling through pathways controlling translation initiation has been investigated in cancer biology, where increased synthesis of growth-associated proteins can contribute to malignant progression. Changes in EIF4B phosphorylation may reflect alterations in the signaling networks that regulate protein production independently of changes in total EIF4B abundance.

Phospho-eIF4B Ser406 Antibody 29E04 provides a means of investigating phosphorylation-dependent regulation of this translation initiation factor. Examining Ser406 phosphorylation alongside total EIF4B expression can help distinguish changes in regulatory phosphorylation from changes in overall protein abundance, providing insight into the molecular mechanisms connecting cellular signaling with translational control.

For additional EIF4B research, explore our EIF4B Antibody, featuring knockout-validated Western blot analysis and complementary immunohistochemistry and flow cytometry data.

Application Notes

Optimal dilution of the Phospho-eIF4B Ser406 Antibody 29E04 / EIF4B Phospho Ser406 Monoclonal Antibody should be determined by the researcher.

Immunogen

A synthetic peptide specific to the region of human eIF4B protein surrounding phosphorylated serine 406 was used as the immunogen for the Phospho-eIF4B antibody.

Storage

Store the Phospho-eIF4B antibody at -20oC.

Alternate Names

Phospho-eIF4B Ser406 antibody, Phospho-EIF4B S406 antibody, EIF4B phospho-Ser406 antibody, Phosphorylated eIF4B Ser406 antibody, Phospho-eIF-4B Ser406 antibody, Eukaryotic translation initiation factor 4B phospho-Ser406 antibody, Phospho-translation initiation factor 4B Ser406 antibody, eIF4B pSer406 antibody, eIF4B pS406 antibody, Phospho-EIF4B 29E04 antibody

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