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EEF2k Rabbit pAb

Catalog # AP99357

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	O00418
Other Accession	O00418
Predicted	Rat, Pig, Human, Mouse, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	82144
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EEF2k
Epitope Specificity	551-650/725
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	"Belongs to the protein kinase superfamily. Alpha-type protein kinase family. Contains 1 alpha-type protein kinase domain.
SUBUNIT	Monomer or homodimer.
Post-translational modifications	Autophosphorylated. Phosphorylated by AMP-activated protein kinase AMPK at Ser-398 leading to EEF2K activation and protein synthesis inhibition. Phosphorylated by TRPM7 at Ser-78 resulting in improved protein stability, higher EE2F phosphorylated and subsequently reduced rate of protein synthesis. Phosphorylation by other kinases such as CDK1 and MAPK13 at Ser-359 or RPS6KA1 and RPS6KB1 at Ser-366 instead decrease EEF2K activity and promote protein synthesis.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Eukaryotic elongation factor 2 kinase (EEF2k) previously known as Ca2+/calmodulin dependent protein kinase III, is an abundant cytoplasmic protein highly specific for elongation factor 2 (eEf2). Phosphorylation of eEF2 by eEF2 kinase on specific threonine residues results in the inactivation of eEF-2 and in termination of mRNA translation. The activity of eEF2 kinase is not only dependent upon Ca2+ ions, calmodulin (CaM) and insulin, but is also regulated both negatively and positively via phosphorylation by different protein kinases (AMPK, S6K1, p90 RSK). There is also evidence that eEF-2 phosphorylation is involved in the regulation of cell cycle progression, cellular differentiation, oogensis and malignant tumors.

Additional Information

Gene ID	29904
Other Names	CaMKIII; HSU93850; eEF-2K; SMEF2K; EF2K_HUMAN; EEF2K; eEF-2 kinase; Calcium/calmodulin-dependent eukaryotic elongation factor 2 kinase; 2.7.11.20; EF2K_MOUSE; EF2K_RAT; eukaryotic elongation factor 2 kinase

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	EEF2K
Function	Threonine kinase that regulates protein synthesis by controlling the rate of peptide chain elongation. Upon activation by a variety of upstream kinases including AMPK or TRPM7, phosphorylates the elongation factor EEF2 at a single site, renders it unable to bind ribosomes and thus inactive. In turn, the rate of protein synthesis is reduced.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.