Revision 1

Phospho-eEF2 (Thr56) Antibody

#2331 Store at -20C

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Hm Mk C	Endogenous	95	Rabbit	#P13639	1938

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-eEF2 (Thr56) Antibody detects endogenous levels of eEF2 only when phosphorylated at Thr56. It does not recognize eEF2 phosphorylated at other sites.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr56 of human eEF2. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Eukaryotic elongation factor 2 (eEF2) catalyzes the translocation of peptidyl-tRNA from the A site to the P site on the ribosome. It has been shown that phosphorylation of eEF2 at threonine 56 by eEF2 kinase inhibits its activity (1-4). eEF2 kinase is normally dependent on Ca2+ ions and calmodulin (5,6). eEF2 kinase can also be activated by PKA in response to elevated cAMP levels (7-9), which are generally increased in stress- or starvation-related conditions. A variety of treatments known to raise intracellular Ca2+ or cAMP levels have been shown to result in increased phosphorylation of eEF2, and thus to inhibit peptide-chain elongation. The inactive phosphorylated eEF2 can be converted to its active nonphosphorylated form by a protein phosphatase, most likely a form of protein phosphatase-2A (PP-2A). Insulin, which activates protein synthesis in a wide range of cell types, induces rapid dephosphorylation of eEF2 through mTOR signaling and may involve modulation of the activity of the PP-2A or the eEF2 kinase or both (10).

Background References

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11. Proud, C. (2000) *Translational Control of Gene Expression. Cold Spring Harbor Laboratory Press, NY,* 719-739.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Hm:** Hamster **Mk:** Monkey **C:** Chicken

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