

Store at -20C
#9079

eIF2 α (D7D3) XP[®] Rabbit mAb (Biotinylated)



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:
WB	H M R Mk	Endogenous	38	Rabbit IgG	#P05198	1965

Product Usage Information	Application	Dilution
	Western Blotting	1:1000
Storage	Supplied in 136 mM NaCl, 2.6 mM KCl, 12 mM sodium phosphate (pH 7.4) dibasic, 2 mg/ml BSA, and 50% glycerol. Store at -20°C. Do not aliquot the antibodies.	
Specificity / Sensitivity	eIF2 α (D7D3) XP [®] Rabbit mAb (Biotinylated) detects endogenous levels of total eIF2 α protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a purified recombinant human eIF2 α protein.	
Product Description	This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated eIF2 α (D7D3) XP [®] Rabbit mAb #5324.	

MW (kDa)

38

Background

Phosphorylation of the eukaryotic initiation factor 2 (eIF2) α subunit is a well-documented mechanism to downregulate protein synthesis under a variety of stress conditions. eIF2 binds GTP and Met-tRNAⁱ and transfers Met-tRNA to the 40S subunit to form the 43S preinitiation complex (1,2). eIF2 promotes a new round of translation initiation by exchanging GDP for GTP, a reaction catalyzed by eIF2B (1,2). Kinases that are activated by viral infection (PKR), endoplasmic reticulum stress (PERK/PEK), amino acid deprivation (GCN2), or heme deficiency (HRI) can phosphorylate the α subunit of eIF2 (3,4). This phosphorylation stabilizes the eIF2-GDP-eIF2B complex and inhibits the turnover of eIF2B. Induction of PKR by IFN- γ and TNF- α induces potent phosphorylation of eIF2 α at Ser51 (5,6).

Background References

1. Kimball, S.R. (1999) *Int. J. Biochem. Cell Biol.* 31, 25-29.
2. de Haro, C. et al. (1996) *FASEB J.* 10, 1378-87.
3. Kaufman, R.J. (1999) *Genes Dev.* 13, 1211-33.
4. Sheikh, M.S. and Fornace Jr., A.J. (1999) *Oncogene* 18, 6121-8.
5. Cheshire, J.L. et al. (1999) *J. Biol. Chem.* 274, 4801-6.
6. Zamanian-Daryoush, M. et al. (2000) *Mol. Cell. Biol.* 20, 1278-90.

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

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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