Mouse (monoclonal) Anti-eIF-2α Unconjugated

PRODUCT ANALYSIS SHEET

Catalog Number:	AHO0802
Lot Number:	See product label
Quantity/Volume:	0.1 mg/0.2 mL
Clone Number:	EIF2α
Isotype:	IgG1 (mouse)
Form of Antibody:	Purified immunoglobulin in phosphate buffered saline, pH 7.4.
Preservation:	0.1% sodium azide (Caution: sodium azide is a poisonous and hazardous substance. Handle with care and dispose of properly.)
Purification:	Purified from ascites by Protein A/G chromatography.
Immunogen:	Recombinant human eIF-2α.
Specificity:	This antibody recognizes the α subunit of eukaryotic translation initiation factor 2 (eIF-2α). It is a 36 kDa protein and is ubiquitously expressed in many cell types. The eIF-2 protein, which is composed of three subunits (α, β and γ), is one of the key molecules in the initiation of translation. The phosphorylation of eIF-2α is an important regulatory process in protein synthesis. In mammalian cells, eIF-2α is phosphorylated at serine 51 by at least two kinases: the haem-controlled repressor (HCR) and the interferon inducible double stranded RNA-dependent protein kinase (PKR). Phosphorylation of eIF-2α blocks the GDP-GTP exchange activity of eIF-2β, resulting in the suppression of protein synthesis.
Species Reactivity:	Human, mouse and rat. Other species were not tested.
Applications:	This antibody is suitable for Western blotting. Other applications have not been tested.
Suggested Working Dilutions:	For Western blotting, use 1:500-1:1000 dilution. The optimal antibody concentration should be determined for each specific application.
Recommended Positive Control:	Human Jurkat, CEM and HeLa cells, mouse 3T3L1 and rat PC-12 cells.
Storage:	Store at 2-8ºC. For long term storage, aliquot into small volumes and store at –20ºC. Avoid repeated freeze-thaw cycles to avoid denaturing the antibody.

www.invitrogen.com

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com

PI AHO0802 (Rev 10/08) DCC-08-1089

References:

Datta, B., et al. (1999) Increased phosphorylation of eukaryotic initiation factor-2α at the G2/M boundary in human osteosarcoma cells correlates with deglycosylation of p67 and a decreased rate of protein synthesis. Exp. Cell Res. 250:223-230.

Ernst, H., et al. (1987) Cloning and sequencing of complementary DNAs encoding the α-subunit of translational initiation factor eIF-2. Characterization of the protein and its messenger RNA. J. Biol. Chem. 262(3):1206-1212.

Lu, J., et al. (1999) The interferon-induced double-stranded RNA-activated protein kinase PKR will phosphorylate serine, threonine, or tyrosine at residue 51 in eukaryotic initiation factor 2α. J. Biol. Chem. 274(45):32198-32203.

Kimball, S.R. (1999) Eukaryotic initiation factor eIF2. Int. J. Biochem. Cell Biol. 31:25-29.

Kimball, S. R., et al. (1994) Purification and characterization of eukaryotic translational initiation factor eIF-2B from liver. Biochim. Biophys. Acta 1201(3):473-481.

Pavitt, G.D., et al. (1998) eIF2 independently binds two distinct eIF2B subcomplexes that catalyze and regulate guanine-nucleotide exchange. Genes Dev. 12(4):514-526.

Patel, CV., et al. (2000) PACT, a stress-modulated cellular activator of interferon-induced, double-stranded RNA activated protein kinase, PKR. J. Biol. Chem. 275(48):37993-37998.

Zhang, P.C., et al. (2002) The PERK eukaryotic initiation factor 2 alpha kinase is required for the development of the skeletal system, postnatal growth, and the function and viability of the pancreas. Mol. Cell. Biol. 22(11):3864-3874.

Cell extracts prepared from human CEM (lane 1), HeLa (lane 2) and rat PC-12 cells (lane 3) were resolved by SDS PAGE on a 4-20% Tris-glycine gel. The proteins were then transferred to PVDF membrane. Membranes were incubated with 1 µg/mL anti-eIF-2α antibody for 1 hour. After washing, membranes were incubated with goat $F(ab')_2$ anti-mouse IgG alkaline phosphatase (cat. # AMI4405) and bands were detected using the Tropix WesternStar™ detection method.

The data show that the anti-eIF-2a antibody recognizes a 36 kDa band in the cell extracts.

www.invitrogen.com

Invitrogen Corporation • 542 Flynn Rd • Camarillo • CA 93012 • Tel: 800.955.6288 • E-mail: techsupport@invitrogen.com

PI AHO0802 (Rev 10/08) DCC-08-1089