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# eIF2 $\alpha$ (m2): 293T Lysate: sc-119968

## BACKGROUND

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. The eukaryotic initiation complex is composed of three subunits, designated eIF2 $\alpha$ , eIF2 $\beta$  and eIF2 $\gamma$  (eukaryotic translation initiation factor 2  $\alpha$ ,  $\beta$  and  $\gamma$ , respectively), all of which work in concert to form a ternary complex with GTP and tRNA in the early stages of protein synthesis. eIF2 $\alpha$ , also known as EIF2S1 or EIF2, is a 315 amino acid subunit of the eukaryotic initiation complex that functions to bind tRNA to the 40S ribosomal subunit (in a GTP-dependent manner), thereby initiating translation. In addition, the phosphorylation state of eIF2 $\alpha$  controls the rate of tRNA translation. When eIF2 $\alpha$  is not phosphorylated, translation occurs at a normal rate. However, upon phosphorylation by one of several kinases, eIF2 $\alpha$  is stabilized, thus preventing the GDP/GTP exchange reaction and slowing translation.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Eif2s1 (mouse) mapping to 12 C3.

## PRODUCT

eIF2 $\alpha$  (m2): 293T Lysate represents a lysate of mouse eIF2 $\alpha$  transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

eIF2 $\alpha$  (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive eIF2 $\alpha$  antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## STORAGE

Store at -20 $^{\circ}$  C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

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