

# eIF4AI/II (H-145): sc-50354

## BACKGROUND

Translation initiation in eukaryotes necessitates the assembly of an 80S ribosomal complex. Eukaryotic initiation factors (eIFs) are utilized in a sequence of reactions that leads to 80S ribosomal assembly and initiation of translation. Mammalian eukaryotic translation initiation factor 4F (eIF4F) is a protein complex that contains eIF4A, eIF4E and eIF4G, binds mRNA at a 5'-cap motif and recruits the 43S ribosomal preinitiation complex to the eligible transcript. Along with eIF4B, the eIF4F complex mediates the unwinding of mRNA secondary structure to facilitate ribosome association. eIF4E specifically interacts with the 5' cap, eIF4A (I,II) are bidirectional RNA helicases, and eIF4G (I,II) are scaffolding proteins which coordinate eIF4E, eIF4A, eIF3 and the 40S ribosome. Human eIF4AI (eIF4A, DDX2A) is a 406 amino acid protein that is 92.7% homologous to mouse eIF4AI. The promoter region of human eIF4AI contains TATA and CAAT motifs and consensus binding sites to SP1 and AP2.

## REFERENCES

1. Rozen, F., et al. 1990. Bidirectional RNA helicase activity of eucaryotic translation initiation factors 4A and 4F. *Mol. Cell. Biol.* 10: 1134-1144.
2. Pain, V.M. 1996. Initiation of protein synthesis in eukaryotic cells. *Eur. J. Biochem.* 236: 747-751.
3. Kukimoto, I., et al. 1997. Characterization of the cloned promoter of the human initiation factor 4AI gene. *Biochem. Biophys. Res. Commun.* 233: 844-847.

## CHROMOSOMAL LOCATION

Genetic locus: EIF4A1 (human) mapping to 17p13.1, EIF4A2 (human) mapping to 3q27.3; Eif4a1 (mouse) mapping to 11 B3, Eif4a2 (mouse) mapping to 16 B1.

## SOURCE

eIF4AI/II (H-145) is a rabbit polyclonal antibody raised against amino acids 186-330 mapping within an internal region of eIF4AI of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

eIF4AI/II (H-145) is recommended for detection of eIF4AI and eIF4AII of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). eIF4AI/II (H-145) is also recommended for detection of eIF4AI and eIF4AII in additional species, including equine, canine, bovine, porcine and avian.

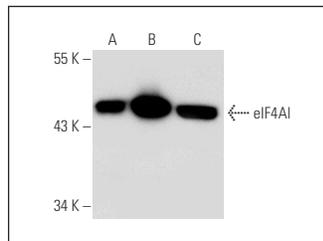
Molecular Weight of eIF4AI/II: 46 kDa.

Positive Controls: eIF4AI (m): 293T Lysate: sc-125292, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

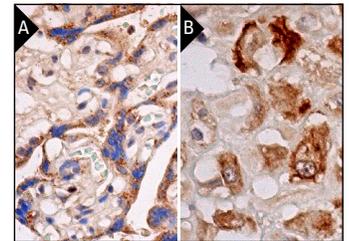
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



eIF4AI/II (H-145): sc-50354. Western blot analysis of eIF4AI expression in non-transfected 293T: sc-117752 (A), mouse eIF4AI transfected 293T: sc-125292 (B) and HeLa (C) whole cell lysates.



eIF4AI/II (H-145): sc-50354. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (B).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

**MONOS**  
Satisfaction  
Guaranteed

Try **eIF4AI/II (H-5): sc-377315**, our highly recommended monoclonal alternative to eIF4AI/II (H-145).