**BACKGROUND**

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. Eukaryotic initiation factors (eIFs) are utilized in a sequence of reactions that lead to 80S ribosomal assembly and, ultimately, translation. The eukaryotic initiation factor-3 (eIF3) scaffolding structure is the largest of the eIF complexes and includes eIF3ε, eIF3δ, eIF3γ, eIF3β, eIF3α, eIF3ζ, eIF3η, and eIF3θ, all of which function to control the assembly of the 40S ribosomal subunit. Association of eIF3 proteins with the 40S ribosomal subunit stabilizes eIF2-GTP-Met-tRNA$_{Met}$ complex association and mRNA binding, and promotes dissociation of 80S ribosomes into 40S and 60S subunits, thereby promoting the assembly of the pre-initiation complex.

**REFERENCES**


4. LeFebvre, A.K., et al. 2006. Translation initiation factor-3 (eIF3) scaffolding structure is the largest of the eIF complexes and includes eIF3ε, eIF3δ, eIF3γ, eIF3β, eIF3α, eIF3ζ, eIF3η, and eIF3θ, all of which function to control the assembly of the 40S ribosomal subunit. Association of eIF3 proteins with the 40S ribosomal subunit stabilizes eIF2-GTP-Met-tRNA$_{Met}$ complex association and mRNA binding, and promotes dissociation of 80S ribosomes into 40S and 60S subunits, thereby promoting the assembly of the pre-initiation complex. Overexpression of eIF3 proteins is common in several cancers, suggesting a role for eIF3 proteins in tumorigenesis.

**CHROMOSOMAL LOCATION**

Genetic locus: EIF3F (human) mapping to 11p15.4; Eif3f (mouse) mapping to 7 E3.

**SOURCE**

eIF3ε (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 167-205 within an internal region of eIF3ε of human origin.

**PRODUCT**

Each vial contains 200 µg IgG$_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF3ε (G-7) is available conjugated to agarose (sc-390413 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390413 HRP), 200 µg/ml, for WB, IHC(IP) and ELISA; to either phycoerythrin (sc-390413 PE), fluorescein (sc-390413 FITC), Alexa Fluor® 488 (sc-390413 AF488), Alexa Fluor® 546 (sc-390413 AF546), Alexa Fluor® 594 (sc-390413 AF594) or Alexa Fluor® 647 (sc-390413 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390413 AF680) or Alexa Fluor® 790 (sc-390413 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390413 P, [100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein].

**APPLICATIONS**

eIF3ε (G-7) is recommended for detection of eIF3ε of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

eIF3ε (G-7) is also recommended for detection of eIF3ε in additional species, including equine and bovine.

Positive Controls: A-431 whole cell lysate: sc-2201, Neuro-2A whole cell lysate: sc-364185 or MM-142 cell lysate: sc-2246.

Molecular Weight of eIF3ε: 52 kDa.

**DATA**

![Western blot analysis of eIF3ε expression in HEK293T](image)

**SELECT PRODUCT CITATIONS**


**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.

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