SANTA CRUZ BIOTECHNOLOGY, INC.

eIF3ε (K-15): sc-30248

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The Power to Question

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 eIF3α, eIF3β, eIF3γ, eIF3δ, eIF3ε, 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-tRNAiMet 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.

REFERENCES

1. Asano, K., Kinzy, T.G., Merrick, W.C. and Hershey, J.W. 1997. Conservation and diversity of eukaryotic translation initiation factor eIF3. J. Biol. Chem. 272: 1101-1109.
2. Asano, K., Vornlocher, H.P., Richter-Cook, N.J., Merrick, W.C., Hinnebusch, A.G. and Hershey, J.W. 1997. Structure of cDNAs encoding human eukaryotic initiation factor 3 subunits. Possible roles in RNA binding and macromolecular assembly. J. Biol. Chem. 272: 27042-27052.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603917. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Asano, K., Clayton, J., Shalev, A. and Hinnebusch, A.G. 2000. A multifactor complex of eukaryotic initiation factors, eIF1, eIF2, eIF3, eIF5, and initiator tRNA(Met) is an important translation initiation intermediate *in vivo*. Genes Dev. 14: 2534-2546.
5. Valasek, L., Phan, L., Schoenfeld, L.W., Valaskova, V. and Hinnebusch, A.G. 2001. Related eIF3 subunits TIF32 and HCR1 interact with an RNA recognition motif in PRT1 required for eIF3 integrity and ribosome binding. EMBO J. 20: 891-904.

CHROMOSOMAL LOCATION

Genetic locus: EIF3S5 (human) mapping to 11p15.4; Eif3s5 (mouse) mapping to 7 E3.

SOURCE

eIF3ε (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of eIF3ε 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.

Blocking peptide available for competition studies, sc-30248 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

eIF3ε (K-15) is recommended for detection of eIF3ε of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 (K-15) is also recommended for detection of eIF3ε in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for eIF3ε siRNA (h): sc-105324, eIF3ε siRNA (m): sc-144615, eIF3ε shRNA Plasmid (h): sc-105324-SH, eIF3ε shRNA Plasmid (m): sc-144615-SH, eIF3ε shRNA (h) Lentiviral Particles: sc-105324-V and eIF3ε shRNA (m) Lentiviral Particles: sc-144615-V.

Molecular Weight of eIF3ε: 52 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.