SANTA CRUZ BIOTECHNOLOGY, INC.

eIF6 (V-20): sc-70270

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. eIF6 (eukaryotic translation initiation factor 6) is also known as CAB, B(2)GCN homolog, p27(BBP) or B4 integrin interactor and is a 245 amino acid protein that is localized to the cytoplasm, as well as to the nucleolus within the nucleus. The N-terminal and C-terminal subdomains of eIF6 are thought to contain important nucleolar localization sequences. eIF6 may be a regulator of ribosomal function and creation. eIF6 functions to bind and translocate the 60S ribosomal subunit from the nucleus to the cytoplasm, effectively preventing the 60S subunit from associating with the 40S subunit and inhibiting formation of the 80S initiation complex. The regulation of the formation of the 80S ribosomes also regulates transcription. Once translocated to the cytoplasm, the eIF6-60S ribosomal subunit complex is subject to phosphorylation via the RACK1/PKC pathway, an event that results in the dissociation of eIF6 from the 60S subunit. Upreg-ulation of eIF6 is strongly associated with a variety of of cancers, such as ovarian cancer, suggesting that eIF6 may be involved in carcinogenesis.

REFERENCES

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2. Basu, U., Si, K., Warner, J.R. and Maitra, U. 2001. The *Saccharomyces cerevisiae* TIF6 gene encoding translation initiation factor 6 is required for 60S ribosomal subunit biogenesis. Mol. Cell. Biol. 21: 1453-1462.
3. Carotenuto, R., De Marco, N., Biffo, S., Wilding, M., Vaccaro, M.C., Marchisio, P.C., Capriglione, T., Russo, G.L. and Campanella, C. 2005. Phosphorylation of p27(BBP)/eIF6 and its association with the cytoskeleton are developmentally regulated in *Xenopus oogenesis*. Cell. Mol. Life Sci. 62: 1641-1652.
4. Balbo, A. and Bozzaro, S. 2006. Cloning of *Dictyostelium* eIF6 (p27BBP) and mapping its nucle(ol)ar localization subdomains. Eur. J. Cell Biol. 85: 1069-1078.
5. Donadini, A., Giacopelli, F., Ravazzolo, R., Gandin, V., Marchisio, P.C. and Biffo, S. 2006. GABP complex regulates transcription of eIF6 (p27BBP), an essential *trans*-acting factor in ribosome biogenesis. FEBS Lett. 580: 1983-1987.

CHROMOSOMAL LOCATION

Genetic locus: EIF6 (human) mapping to 20q11.22; Eif6 (mouse) mapping to 2 H1.

SOURCE

eIF6 (V-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of eIF6 of human origin.

RESEARCH USE

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

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-70270 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

eIF6 (V-20) is recommended for detection of eIF6 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

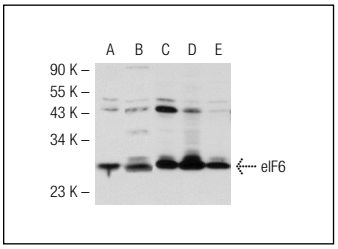
eIF6 (V-20) is also recommended for detection of eIF6 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for eIF6 siRNA (h): sc-77255, eIF6 siRNA (m): sc-77256, eIF6 shRNA Plasmid (h): sc-77255-SH, eIF6 shRNA Plasmid (m): sc-77256-SH, eIF6 shRNA (h) Lentiviral Particles: sc-77255-V and eIF6 shRNA (m) Lentiviral Particles: sc-77256-V.

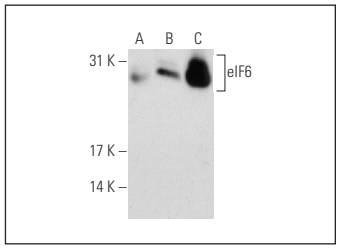
Molecular Weight of eIF6: 27 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Ramos cell lysate: sc-2216 or HEK293 whole cell lysate: sc-45136 .

DATA



eIF6 (V-20): sc-70270. Western blot analysis of eIF6 expression in HEK293 (**A**), HeLa (**B**), K-562 (**C**), Ramos (**D**) and MIA PaCa-2 (**E**) whole cell lysates.



eIF6 (V-20): sc-70270. Western blot analysis of eIF6 expression in non-transfected 293T: sc-117752 (**A**), human eIF6 transfected 293T: sc-173809 (**B**) and K-562 (**C**) whole cell lysates.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **eIF6 (A-2): sc-390432** or **eIF6 (A-12): sc-390441**, our highly recommended monoclonal alternatives to eIF6 (V-20).