

# eIF3K (2313C2a): sc-81262

## BACKGROUND

eIF3K (eukaryotic translation initiation factor 3 subunit K, Muscle-specific gene M9 protein) is a widely expressed translation initiation factor that belongs to the eIF3 subunit K family. Translation initiation factor 3 (eIF3) is a multisubunit complex containing at least 12 subunits. eIF3 binds to the 40S ribosomal subunit, promotes the binding of methionyl-tRNA<sub>i</sub> and mRNA, and interacts with several other initiation factors to form the 40S initiation complex. eIF3K is the smallest subunit of eIF3 and it interacts with several other subunits of eIF3 and the 40S ribosomal subunit. eIF3K is conserved among high eukaryotes, including mammals, insects, and plants, and it is ubiquitously expressed in human tissues. eIF3K is distributed both in nucleus and cytoplasm and colocalizes with cyclin D3, a regulatory subunit of cyclin-dependent kinase 4 (Cdk4).

## REFERENCES

1. 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.
2. Karki, S., Ligon, L.A., DeSantis, J., Tokito, M. and Holzbaur, E.L. 2002. PLAC-24 is a cytoplasmic dynein-binding protein that is recruited to sites of cell-cell contact. *Mol. Biol. Cell* 13: 1722-1734.
3. Mayeur, G.L., Fraser, C.S., Peiretti, F., Block, K.L. and Hershey, J.W. 2003. Characterization of eIF3K: a newly discovered subunit of mammalian translation initiation factor eIF3. *Eur. J. Biochem.* 270: 4133-4139.
4. Shen, X., Yang, Y., Liu, W., Sun, M., Jiang, J., Zong, H. and Gu, J. 2004. Identification of the p28 subunit of eukaryotic initiation factor 3 (eIF3K) as a new interaction partner of cyclin D3. *FEBS Lett.* 573: 139-146.
5. Wei, Z., Zhang, P., Zhou, Z., Cheng, Z., Wan, M. and Gong, W. 2004. Crystal structure of human eIF3K, the first structure of eIF3 subunits. *J. Biol. Chem.* 279: 34983-34990.
6. Scheel, H. and Hofmann, K. 2005. Prediction of a common structural scaffold for proteasome lid, COP9-signalosome and eIF3 complexes. *BMC Bioinformatics* 6: 71.
7. De Martelaere, K., Lintermans, B., Haegeman, G. and Vanhoenacker, P. 2007. Novel interaction between the human 5-HT7 receptor isoforms and PLAC-24/eIF3K. *Cell. Signal.* 19: 278-288.

## CHROMOSOMAL LOCATION

Genetic locus: EIF3K (human) mapping to 19q13.2; Eif3k (mouse) mapping to 7 A3.

## SOURCE

eIF3K (2313C2a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of eIF3K of human origin.

## PRODUCT

Each vial contains 100 µg in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

## APPLICATIONS

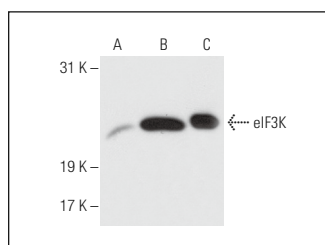
eIF3K (2313C2a) is recommended for detection of eIF3K of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for eIF3K siRNA (h): sc-77250, eIF3K siRNA (m): sc-77251, eIF3K shRNA Plasmid (h): sc-77250-SH, eIF3K shRNA Plasmid (m): sc-77251-SH, eIF3K shRNA (h) Lentiviral Particles: sc-77250-V and eIF3K shRNA (m) Lentiviral Particles: sc-77251-V.

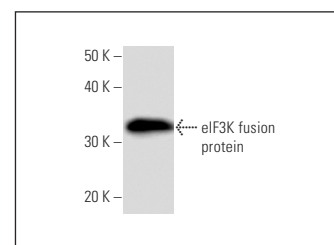
Molecular Weight of eIF3K: 25 kDa.

Positive Controls: IMR-32 nuclear extract: sc-2148 or eIF3K (m): 293T Lysate: sc-126780.

## DATA



eIF3K (2313C2a): sc-81262. Western blot analysis of eIF3K expression in non-transfected: sc-117752 (A) and mouse eIF3K transfected: sc-126780 (B) 293T whole cell lysates and IMR-32 nuclear extract (C).



eIF3K (2313C2a): sc-81262. Western Blot analysis of human recombinant eIF3K fusion protein.

## SELECT PRODUCT CITATIONS

1. Theodoridis, P.R., Bokros, M., Marijan, D., Balukoff, N.C., Wang, D., Kirk, C.C., Budine, T.D., Goldsmith, H.D., Wang, M., Audas, T.E. and Lee, S. 2021. Local translation in nuclear condensate Amyloid bodies. *Proc. Natl. Acad. Sci. USA* 118: e2014457118.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## 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) for detailed protocols and support products.