

eRF1 (m): 293T Lysate: sc-120092

BACKGROUND

Translation is carried out by the ribosome and several associated protein factors through three consecutive steps: initiation, elongation and termination. Termination of protein synthesis takes place when the ribosomal A site is occupied simultaneously by one of three stop codons and by a class 1 translation termination factor. In eukaryotes, this termination factor is the eukaryotic release factor 1 (eRF1), a protein that promotes hydrolysis of the last peptidyl-tRNA on the ribosome. eRF1 activity is stimulated by the association with the GTP-binding protein eRF3. eRF1 forms a quaternary complex with eRF3, GTP and the ribosome. This complex performs a dual role, where, in the "GTP state," it controls the positioning of eRF1 toward the stop codon and peptidyl-tRNA, and, in the "GDP state," it promotes the release of the eRFs from the ribosome. eRF1 contains a highly conserved Asn-Ile-Lys-Ser (NIKS) tetrapeptide, which is essential for the interaction of eRF1 with the ribosome. The gene encoding human eRF1 maps to chromosome 5q31.2.

REFERENCES

1. Frolova, L., Le Goff, X., Zhouravleva, G., Davydova, E., Philippe, M. and Kisselev, L. 1996. Eukaryotic polypeptide chain release factor eRF3 is an eRF1- and ribosome-dependent guanosine triphosphatase. *RNA* 2: 334-341.
2. Le Goff, X., Philippe, M. and Jean-Jean, O. 1997. Overexpression of human release factor 1 alone has an antisuppressor effect in human cells. *Mol. Cell. Biol.* 17: 3164-3172.
3. Frolova, L.Y., Simonsen, J.L., Merkulova, T.I., Litvinov, D.Y., Martensen, P.M., Rechinsky, V.O., Camonis, J.H., Kisselev, L.L. and Justesen, J. 1998. Functional expression of eukaryotic polypeptide chain release factors 1 and 3 by means of baculovirus/insect cells and complex formation between the factors. *Eur. J. Biochem.* 256: 36-44.
4. Frolova, L., Seit-Nebi, A. and Kisselev, L. 2002. Highly conserved NIKS tetrapeptide is functionally essential in eukaryotic translation termination factor eRF1. *RNA* 8: 129-136.
5. Moreira, D., Kervestin, S., Jean-Jean, O. and Philippe, H. 2002. Evolution of eukaryotic translation elongation and termination factors: variations of evolutionary rate and genetic code deviations. *Mol. Biol. Evol.* 19: 189-200.
6. Mazur, A.M., Kholod, N.S., Seit Nebi, A.S. and Kiselev, L.L. 2002. A new method to measure the functional activity of class-1 translation termination factor eRF1. *Mol. Biol.* 36: 129-135.
7. Dubourg, C., Toutain, B., Helias, C., Henry, C., Lessard, M., Le Gall, J.Y., Le Treut, A. and Guenet, L. 2002. Evaluation of ETF1/eRF1, mapping to 5q31, as a candidate myeloid tumor suppressor gene. *Cancer Genet. Cytogenet.* 134: 33-37.

CHROMOSOMAL LOCATION

Genetic locus: Etf1 (mouse) mapping to 18 B1.

PRODUCT

eRF1 (m): 293T Lysate represents a lysate of mouse eRF1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

eRF1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive eRF1 antibodies. Recommended use: 10-20 µl per lane.

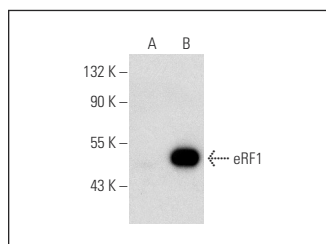
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

eRF1 (E-11): sc-365653 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse eRF1 expression in eRF1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

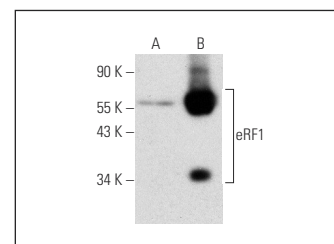
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



eRF1 (E-11): sc-365653. Western blot analysis of eRF1 expression in non-transfected: sc-117752 (A) and mouse eRF1 transfected: sc-120092 (B) 293T whole cell lysates.



eRF1 (B-11): sc-365686. Western blot analysis of eRF1 expression in non-transfected: sc-117752 (A) and mouse eRF1 transfected: sc-120092 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.