

SELB (N-20): sc-79720

BACKGROUND

SELB (selenocysteine-specific elongation factor), also known as EEFSEC (eukaryotic elongation factor, selenocysteine-tRNA-specific) or EFSEC, is a 596 amino acid protein that localizes to both the nucleus and the cytoplasm and belongs to the GTP-binding elongation factor family. Functioning as a translation factor, SELB binds GTP and GDP and is necessary for the incorporation of selenocysteine into target proteins. The gene encoding SELB maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. Fagegaltier, D., Hubert, N., Yamada, K., Mizutani, T., Carbon, P. and Krol, A. 2000. Characterization of mSelB, a novel mammalian elongation factor for selenoprotein translation. *EMBO J.* 19: 4796-4805.
2. Zavacki, A.M., Mansell, J.B., Chung, M., Klimovitsky, B., Harney, J.W. and Berry, M.J. 2003. Coupled tRNA(Sec)-dependent assembly of the selenocysteine decoding apparatus. *Mol. Cell* 11: 773-781.
3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607695. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Mehta, A., Rebsch, C.M., Kinzy, S.A., Fletcher, J.E. and Copeland, P.R. 2004. Efficiency of mammalian selenocysteine incorporation. *J. Biol. Chem.* 279: 37852-37859.
5. Caban, K. and Copeland, P.R. 2006. Size matters: a view of selenocysteine incorporation from the ribosome. *Cell. Mol. Life Sci.* 63: 73-81.
6. Gupta, M. and Copeland, P.R. 2007. Functional analysis of the interplay between translation termination, selenocysteine codon context, and selenocysteine insertion sequence-binding protein 2. *J. Biol. Chem.* 282: 36797-36807.
7. Caban, K., Kinzy, S.A. and Copeland, P.R. 2007. The L7Ae RNA binding motif is a multifunctional domain required for the ribosome-dependent Sec incorporation activity of Sec insertion sequence binding protein 2. *Mol. Cell. Biol.* 27: 6350-6360.
8. Donovan, J., Caban, K., Ranaweera, R., Gonzalez-Flores, J.N. and Copeland, P.R. 2008. A novel protein domain induces high affinity selenocysteine insertion sequence binding and elongation factor recruitment. *J. Biol. Chem.* 283: 35129-35139.

CHROMOSOMAL LOCATION

Genetic locus: EEFSEC (human) mapping to 3q21.3; Eefsec (mouse) mapping to 6 D1.

RESEARCH USE

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

SOURCE

SELB (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SELB 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-79720 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SELB (N-20) is recommended for detection of SELB 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).

SELB (N-20) is also recommended for detection of SELB in additional species, including canine and bovine.

Suitable for use as control antibody for SELB siRNA (h): sc-76468, SELB siRNA (m): sc-76469, SELB shRNA Plasmid (h): sc-76468-SH, SELB shRNA Plasmid (m): sc-76469-SH, SELB shRNA (h) Lentiviral Particles: sc-76468-V and SELB shRNA (m) Lentiviral Particles: sc-76469-V.

Molecular Weight of SELB: 64 kDa.

Positive Controls: Mouse brain extract: sc-2253.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.