SANTA CRUZ BIOTECHNOLOGY, INC.

Sec61α (G-20): sc-12322

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

In mammalian cells, protein translocation across the endoplasmic reticulum (ER) membrane is almost exclusively co-translational. This transport depends on the Sec61 complex, which is homologous to the yeast Sec61p complex and has been identified in mammals as a ribosome-bound pore-forming membrane protein complex. The Sec61 complex associates with two ubiquitous ER membrane proteins Sec62 (also designated human translocation protein 1 or HTP1) and Sec63. The Sec61 complex forms the hydrophilic pore in the membrane through which the nascent polypeptide is translocated. Sec61p seems to be the evolutionary conserved component since homologues of Sec61p have been found both in bacteria and mammals. Sec62 is expressed in various human tissues such as the heart, brain, placenta, liver and pancreas.

REFERENCES

1. Simon, S.M., et al. 1991. A protein-conducting channel in the endoplasmic reticulum. Cell 65: 371-380.
2. Görlich, D., et al. 1993. Protein translocation into proteoliposomes reconstituted from purified components of the endoplasmic reticulum membrane. Cell 75: 615-630.

CHROMOSOMAL LOCATION

Genetic locus: SEC61A1 (human) mapping to 3q21.3, SEC61A2 (human) mapping to 10p14; Sec61a1 (mouse) mapping to 6 D1, Sec61a2 (mouse) mapping to 2 A1.

SOURCE

Sec61α (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Sec61α1 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-12322 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sec61α (G-20) is recommended for detection of Sec61α1 and Sec61α2 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).

Sec61α (G-20) is also recommended for detection of Sec61α1 and Sec61α2 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Sec61α1 isoforms: 39/52 kDa.

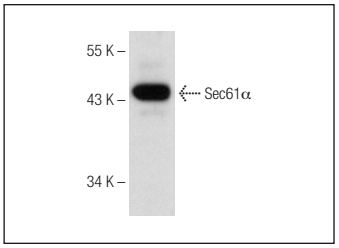
Molecular Weight of Sec61α2 isoforms: 49/52 kDa.

Positive Controls: Sec61α2 (m): 293T Lysate: sc-127520, HeLa whole cell lysate: sc-2200 or Daudi cell lysate: sc-2415.

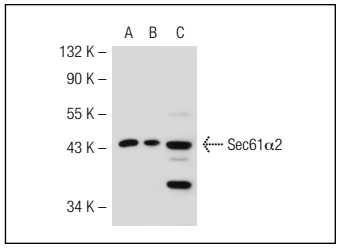
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Sec61α (G-20): sc-12322. Western blot analysis of Sec61α expression in Daudi whole cell lysate.



Sec61α (G-20): sc-12322. Western blot analysis of Sec61α2 expression in non-transfected 293T: sc-117752 (**A**), mouse Sec61α2 transfected 293T: sc-127520 (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Rohde, H.M., et al. 2003. The human phosphatidylinositol phosphatase SAC1 interacts with the coatomer I complex. J. Biol. Chem. 278: 52689-52699.
2. Sanbe, A., et al. 2004. Desmin-related cardiomyopathy in transgenic mice: a cardiac amyloidosis. Proc. Natl. Acad. Sci. USA 101: 10132-10136.
3. Van Coppenolle, F., et al. 2004. Ribosome-translocon complex mediates calcium leakage from endoplasmic reticulum stores. J. Cell Sci. 117: 4135-4142.
4. Blagoveshchenskaya, A., et al. 2008. Integration of Golgi trafficking and growth factor signaling by the lipid phosphatase SAC1. J. Cell Biol. 180: 803-812.
5. Rismanchi, N., et al. 2009. STAM adaptor proteins interact with COPII complexes and function in ER-to-Golgi trafficking. Traffic 10: 201-217.
6. Baird, N.L., et al. 2012. Arenavirus infection induces discrete cytosolic structures for RNA replication. J. Virol. 86: 11301-11310.

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.