SANTA CRUZ BIOTECHNOLOGY, INC.

cytochrome b561 (A-12): sc-161026

BACKGROUND

Cytochrome b561 (CYB561), also known as ferric reductase 2 (FRRS2), is a 251 amino acid multi-pass membrane protein. Specific to neuroendocrine tissues, cytochrome b561 acts as a secretory vesicle-specific electron transport protein. Cytochrome b561 shuttles an electron from ascorbate across vesicle membranes to the electron acceptor semidehydroascorbate in the interior of vesicles. The continuously regenerated ascorbate within the vesicles is the immediate donor to monooxygenases. It has also been suggested that cytochrome b561 has significant ferric reductase activity.

REFERENCES

1. Duong, L.T. and Fleming, P.J. 1982. Isolation and properties of cytochrome b561 from bovine adrenal chromaffin granules. J. Biol. Chem. 257: 8561-8564.
2. Srivastava, M., Gibson, K.R., Pollard, H.B. and Fleming, P.J. 1994. Human cytochrome b561: a revised hypothesis for conformation in membranes which reconciles sequence and functional information. Biochem. J. 303: 915-921.
3. McBride, O.W., Yi, H.F. and Srivastava, M. 1994. The human cytochrome b561 gene (CYB561) is located at 17q11-qter. Genomics 21: 662-663.
4. Srivastava, M. 1995. Genomic structure and expression of the human gene encoding cytochrome b561, an integral protein of the chromaffin granule membrane. J. Biol. Chem. 270: 22714-22720.
5. Vargas, J.D., Herpers, B., McKie, A.T., Gledhill, S., McDonnell, J., van den Heuvel, M., Davies, K.E. and Ponting, C.P. 2003. Stromal cell-derived receptor 2 and cytochrome b561 are functional ferric reductases. Biochim. Biophys. Acta 1651: 116-123.
6. Bashtovyy, D., Bérczi, A., Asard, H. and Páli, T. 2003. Structure prediction for the di-heme cytochrome b561 protein family. Protoplasma 221: 31-40.
7. Fung, M.M., Nguyen, C., Mehtani, P., Salem, R.M., Perez, B., Thomas, B., Das, M., Schork, N.J., Mahata, S.K., Ziegler, M.G. and O'Connor, D.T. 2008. Genetic variation within adrenergic pathways determines *in vivo* effects of presynaptic stimulation in humans. Circulation 117: 517-525.

CHROMOSOMAL LOCATION

Genetic locus: CYB561 (human) mapping to 17q23.3; Cyb561 (mouse) mapping to 11 E1.

SOURCE

cytochrome b561 (A-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of cytochrome b561 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-161026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cytochrome b561 (A-12) is recommended for detection of cytochrome b561 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); non cross-reactive with cytochrome b or cytochrome b5.

cytochrome b561 (A-12) is also recommended for detection of cytochrome b561 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for cytochrome b561 siRNA (h): sc-93826, cytochrome b561 siRNA (m): sc-142760, cytochrome b561 shRNA Plasmid (h): sc-93826-SH, cytochrome b561 shRNA Plasmid (m): sc-142760-SH, cytochrome b561 shRNA (h) Lentiviral Particles: sc-93826-V and cytochrome b561 shRNA (m) Lentiviral Particles: sc-142760-V.

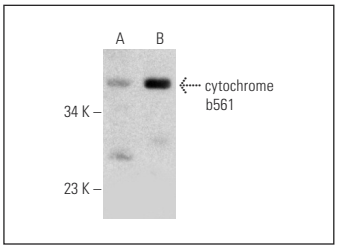
Molecular Weight of cytochrome b561: 30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SK-BR-3 cell lysate: sc-2218 or WI-38 whole cell lysate: sc-364260.

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



cytochrome b561 (A-12): sc-161026. Western blot analysis of cytochrome b561 expression in SK-BR-3 (**A**) and WI 38 (**B**) 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.

RESEARCH USE

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