

CYB561D2 (E-14): sc-102467

BACKGROUND

CYB561D2 (cytochrome b561 domain-containing protein 2), also known as putative tumor suppressor protein 101F6, is a 222 amino acid highly hydrophobic protein that contains six membrane spanning domains. Localized to endosomes and endoplasmic reticulum of the perinuclear region, CYB561D2 contains 2 heme-binding sites, through which it reduces ferric ions. CYB561D2 is ubiquitously expressed, with highest levels in lung, liver and kidney. Though expression of CYB561D2 is abundant in normal lung bronchial epithelial cells, CYB561D2 is absent in most lung cancers. The gene encoding CYB561D2 maps to human chromosome 3p21.31, a region that is prone to genetic alterations and is associated with frequent and early allele loss in many human cancers. Exogenous expression of CYB561D2 leads to the induction of caspase-independent apoptotic and autophagic pathways, resulting in the synergistic killing of tumor cells. This suggests an important role for CYB561D2 as a therapeutic intervention in cancer treatment.

REFERENCES

- Lerman, M.I. and Minna, J.D. 2000. The 630-kb lung cancer homozygous deletion region on human chromosome 3p21.3: identification and evaluation of the resident candidate tumor suppressor genes. The international lung cancer chromosome 3p21.3 tumor suppressor gene consortium. *Cancer Res.* 60: 6116-6133.
- Ji, L., et al. 2002. Expression of several genes in the human chromosome 3p21.3 homozygous deletion region by an adenovirus vector results in tumor suppressor activities *in vitro* and *in vivo*. *Cancer Res.* 62: 2715-2720.
- Chow, L.S., et al. 2004. RASSF1A is a target tumor suppressor from 3p21.3 in nasopharyngeal carcinoma. *Int. J. Cancer* 109: 839-847.
- Angeloni, D. 2007. Molecular analysis of deletions in human chromosome 3p21 and the role of resident cancer genes in disease. *Brief. Funct. Genomic Proteomic* 6: 19-39.
- Ohtani, S., et al. 2007. Tumor suppressor 101F6 and ascorbate synergistically and selectively inhibit non-small cell lung cancer growth by caspase-independent apoptosis and autophagy. *Cancer Res.* 67: 6293-6303.
- Mizutani, A., et al. 2007. Involvement of 101F6, a homologue of cytochrome b561, in the reduction of ferric ions. *J. Biochem.* 142: 699-705.
- Hesson, L.B., et al. 2007. Evaluation of the 3p21.3 tumour-suppressor gene cluster. *Oncogene* 26: 7283-7301.
- Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 607068. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: CYB561D2 (human) mapping to 3p21.31; Cyb561d2 (mouse) mapping to 9 F1.

SOURCE

CYB561D2 (E-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of CYB561D2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-102467 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CYB561D2 (E-14) is recommended for detection of CYB561D2 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 family member CYB561D1.

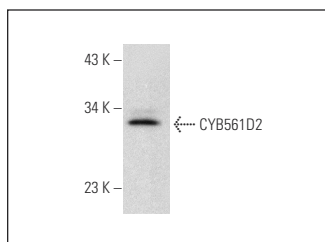
Suitable for use as control antibody for CYB561D2 siRNA (h): sc-78370, CYB561D2 siRNA (m): sc-142649, CYB561D2 shRNA Plasmid (h): sc-78370-SH, CYB561D2 shRNA Plasmid (m): sc-142649-SH, CYB561D2 shRNA (h) Lentiviral Particles: sc-78370-V and CYB561D2 shRNA (m) Lentiviral Particles: sc-142649-V.

Molecular Weight (predicted) of CYB561D2: 24 kDa.

Molecular Weight (observed) of CYB561D2: 32 kDa.

Positive Controls: H69AR whole cell lysate: sc-364382.

DATA



CYB561D2 (E-14): sc-102467. Western blot analysis of CYB561D2 expression in H69AR whole cell lysate.

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.

PROTOCOLS

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