

CYB561D2 (C-2): sc-373870

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 two 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

1. 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.
2. 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.

CHROMOSOMAL LOCATION

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

SOURCE

CYB561D2 (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 201-231 within a C-terminal cytoplasmic domain of CYB561D2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CYB561D2 (C-2) is available conjugated to agarose (sc-373870 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373870 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373870 PE), fluorescein (sc-373870 FITC), Alexa Fluor® 488 (sc-373870 AF488), Alexa Fluor® 546 (sc-373870 AF546), Alexa Fluor® 594 (sc-373870 AF594) or Alexa Fluor® 647 (sc-373870 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373870 AF680) or Alexa Fluor® 790 (sc-373870 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373870 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

CYB561D2 (C-2) is recommended for detection of CYB561D2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

CYB561D2 (C-2) is also recommended for detection of CYB561D2 in additional species, including equine, canine, bovine and porcine.

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.

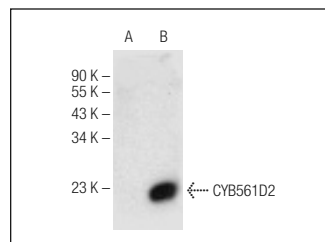
Molecular Weight (observed) of CYB561D2: 32 kDa.

Positive Controls: CYB561D2 (m): 293T Lysate: sc-119539 or H69AR whole cell lysate: sc-364382.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CYB561D2 (C-2): sc-373870. Western blot analysis of CYB561D2 expression in non-transfected: sc-117752 (A) and mouse CYB561D2 transfected: sc-119539 (B) 293T 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.