

Prohibitin 2 (H-80): sc-67045

BACKGROUND

Prohibitin is an evolutionarily conserved protein that has antiproliferative activity. The gene encoding human Prohibitin maps to chromosome 17q21 and is ubiquitously expressed. Prohibitin is a post-synthetically modified protein that is localized in the inner membrane of mitochondria, where it regulates the cell cycle by blocking the transition between the G₁ and S phases, and on the plasma membrane of B cells, where it mediates B cell maturation. Prohibitin mRNA and protein levels are high in G₁, decline during the S phase, rise again in G₂ and decline in M phase, which suggests that Prohibitin controls the cell cycle by using both transcriptional and posttranslational mechanisms. Prohibitin is also a potential tumor suppressor protein that binds to retinoblastoma (Rb) and subsequently inhibits the activity of E2F family members in response to specific signaling cascades. Prohibitin 2 is a repressor of estrogen receptor activity and is required for somatic and germline differentiation in the larval gonad during embryonic development. Mutations in the Prohibitin genes are correlated with breast cancer development and/or progression in more than 80% of the cell lines analyzed.

CHROMOSOMAL LOCATION

Genetic locus: PHB2 (human) mapping to 12p13.31; Phb2 (mouse) mapping to 6 F2.

SOURCE

Prohibitin 2 (H-80) is a rabbit polyclonal antibody raised against amino acids 220-299 mapping at the C-terminus of Prohibitin 2 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.

APPLICATIONS

Prohibitin 2 (H-80) is recommended for detection of Prohibitin 2 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Prohibitin 2 (H-80) is also recommended for detection of Prohibitin 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Prohibitin 2 siRNA (h): sc-45849, Prohibitin 2 siRNA (m): sc-45850, Prohibitin 2 shRNA Plasmid (h): sc-45849-SH, Prohibitin 2 shRNA Plasmid (m): sc-45850-SH, Prohibitin 2 shRNA (h) Lentiviral Particles: sc-45849-V and Prohibitin 2 shRNA (m) Lentiviral Particles: sc-45850-V.

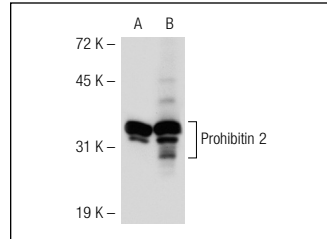
Molecular Weight of Prohibitin 2: 37 kDa.

Positive Controls: Prohibitin 2 (h): 293T Lysate: sc-111933, MCF7 whole cell lysate: sc-2206 or NIH/3T3 whole cell lysate: sc-2210.

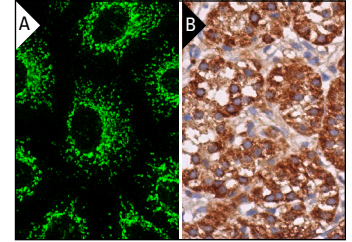
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Prohibitin 2 (H-80): sc-67045. Western blot analysis of Prohibitin 2 expression in non-transfected: sc-117752 (A) and human Prohibitin 2 transfected: sc-111933 (B) 293T whole cell lysates.



Prohibitin 2 (H-80): sc-67045. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Kuadkitkan, A., et al. 2010. Identification and characterization of prohibitin as a receptor protein mediating DENV-2 entry into insect cells. *Virology* 406: 149-161.
- Paris, L.L., et al. 2010. Regulation of Syk by phosphorylation on serine in the linker insert. *J. Biol. Chem.* 285: 39844-39854.
- Vallet, C.M., et al. 2011. Modulation of the expression of ABC transporters in murine (J774) macrophages exposed to large concentrations of the fluoroquinolone antibiotic moxifloxacin. *Toxicology* 290: 178-186.
- Kuadkitkan, A., et al. 2012. Investigation of the Cry4B-prohibitin interaction in aedes aegypti cells. *Curr. Microbiol.* 65: 446-454.
- Wintachai, P., et al. 2012. Identification of prohibitin as a Chikungunya virus receptor protein. *J. Med. Virol.* 84: 1757-1770.

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.


 MONOS
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Try **Prohibitin 2 (A-2): sc-133094**, our highly recommended monoclonal alternative to Prohibitin 2 (H-80). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Prohibitin 2 (A-2): sc-133094**.