

Pdcd-4 (B-4): sc-376430

BACKGROUND

The transformation suppressor gene Pdcd-4 (programmed cell death gene 4) inhibits the tumor-promoter mediated transformation of mouse keratinocytes and is a potential tumor suppressor gene in the development of human lung cancer. Biochemical analysis suggests that the Pdcd-4 protein is involved in protein translation as well as in nuclear events. Pdcd-4 directly interacts with the RNA helicase eIF4A and inhibits protein synthesis by interfering with the assembly of the cap-dependent translation initiation complex. Pdcd-4 also suppresses the transactivation of AP-1 responsive promoters by c-Jun, suggesting that the transformation-suppressor activity of Pdcd-4 might be due, at least in part, to the inhibition of c-Jun activity. In addition to affecting c-Jun phosphorylation, Pdcd-4 blocks the recruitment of the co-activator p300 by c-Jun.

CHROMOSOMAL LOCATION

Genetic locus: PDCD4 (human) mapping to 10q25.2; Pdcd4 (mouse) mapping to 19 D2.

SOURCE

Pdcd-4 (B-4) is a mouse monoclonal antibody raised against amino acids 147-317 mapping within an internal region of Pdcd-4 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.

Pdcd-4 (B-4) is available conjugated to agarose (sc-376430 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376430 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376430 PE), fluorescein (sc-376430 FITC), Alexa Fluor® 488 (sc-376430 AF488), Alexa Fluor® 546 (sc-376430 AF546), Alexa Fluor® 594 (sc-376430 AF594) or Alexa Fluor® 647 (sc-376430 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376430 AF680) or Alexa Fluor® 790 (sc-376430 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Pdcd-4 (B-4) is recommended for detection of Pdcd-4 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), 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).

Suitable for use as control antibody for Pdcd-4 siRNA (h): sc-106389, Pdcd-4 siRNA (m): sc-152123, Pdcd-4 shRNA Plasmid (h): sc-106389-SH, Pdcd-4 shRNA Plasmid (m): sc-152123-SH, Pdcd-4 shRNA (h) Lentiviral Particles: sc-106389-V and Pdcd-4 shRNA (m) Lentiviral Particles: sc-152123-V.

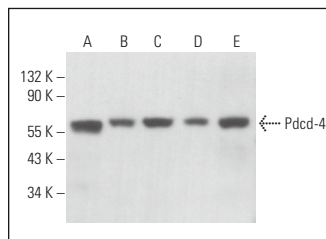
Molecular Weight of Pdcd-4: 54 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, 3T3-L1 cell lysate: sc-2243 or Neuro-2A whole cell lysate: sc-364185.

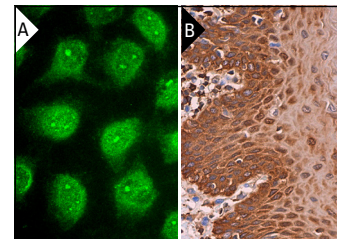
STORAGE

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

DATA



Pdcd-4 (B-4): sc-376430. Western blot analysis of Pdcd-4 expression in HL-60 (A), Neuro-2A (B), NIH/3T3 (C), 3T3-L1 (D) and C6 (E) whole cell lysates.



Pdcd-4 (B-4): sc-376430. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

- Niu, J., et al. 2012. DNA damage induces NFκB-dependent microRNA-21 up-regulation and promotes breast cancer cell invasion. *J. Biol. Chem.* 287: 21783-21795.
- Wang, D., et al. 2013. Distinct roles of different fragments of Pdcd-4 in regulating the metastatic behavior of B16 melanoma cells. *Int. J. Oncol.* 42: 1725-1733.
- Chen, Y., et al. 2016. Suppression of Pdcd-4 mediated by the long non-coding RNA HOTAIR inhibits the proliferation and invasion of glioma cells. *Oncol. Lett.* 12: 5170-5176.
- Shuang, Y., et al. 2017. MicroRNA-503 serves an oncogenic role in laryngeal squamous cell carcinoma via targeting programmed cell death protein 4. *Mol. Med. Rep.* 16: 5249-5256.
- Lü, Y., et al. 2018. Berberine regulates the microRNA-21-ITGβ4-Pdcd-4 axis and inhibits colon cancer viability. *Oncol. Lett.* 15: 5971-5976.
- Zhang, Z., et al. 2019. Luteolin protects PC-12 cells from H₂O₂-induced injury by up-regulation of microRNA-21. *Biomed. Pharmacother.* 112: 108698.
- Manirujjaman, M., et al. 2020. Degradation of the tumor suppressor Pdcd-4 is impaired by the suppression of p62/SQSTM1 and autophagy. *Cells* 9: 218.
- Watanabe, K., et al. 2020. The association between microRNA-21 and hypertension-induced cardiac remodeling. *PLoS ONE* 15: e0226053.
- Wang, S.Y., et al. 2020. Development of microRNA-21 mimic nanocarriers for the treatment of cutaneous wounds. *Theranostics* 10: 3240-3253.

RESEARCH USE

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