SANTA CRUZ BIOTECHNOLOGY, INC.

# Pez (F-12): sc-373766

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Pez (protein tyrosine phosphatase Pez), also known as PTP36 or tyrosine-protein phosphatase non-receptor type 14 (PTPN14), is a member of the non-receptor class subfamily of the protein tyrosine phosphatase family. Protein tyrosine phosphatases (PTPs) are involved in the regulation of a variety of cellular processes. Pez is a cytosolic protein (concentrated at the intercellular junctions) that is expressed in various tissues including placenta, lung, kidney and skeletal muscle. It contains one protein tyrosine phosphatase domain and one FERM (4.1, Ezrin, Radixin, Moesin) domain. In actively proliferating cells, where cell-cell contacts have been disrupted, Pez translocates to the nucleus. TGFβ, a protein known to inhibit cell proliferation, can inhibit the nuclear translocation of Pez. Localization of Pez is also regulated by serum concentrations; higher serum concentrations can lead to the accumulation of Pez in the nucleus. This strongly suggests a role for Pez in cell proliferation.

## CHROMOSOMAL LOCATION

Genetic locus: PTPN14 (human) mapping to 1q41; Ptpn14 (mouse) mapping to 1 H6.

## SOURCE

Pez (F-12) is a mouse monoclonal antibody raised against amino acids 321-387 mapping within an internal region of Pez of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pez (F-12) is available conjugated to agarose (sc-373766 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373766 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373766 PE), fluorescein (sc-373766 FITC), Alexa Fluor® 488 (sc-373766 AF488), Alexa Fluor® 546 (sc-373766 AF546), Alexa Fluor® 594 (sc-373766 AF594) or Alexa Fluor® 647 (sc-373766 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373766 AF680) or Alexa Fluor® 790 (sc-373766 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Pez (F-12) is recommended for detection of Pez 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 Pez siRNA (h): sc-62777, Pez siRNA (m): sc-62778, Pez shRNA Plasmid (h): sc-62777-SH, Pez shRNA Plasmid (m): sc-62778-SH, Pez shRNA (h) Lentiviral Particles: sc-62777-V and Pez shRNA (m) Lentiviral Particles: sc-62778-V.

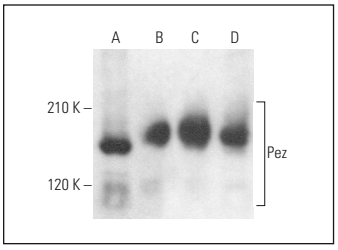
Molecular Weight of Pez: 135 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, SH-SY5Y cell lysate: sc-3812 or HUV-EC-C whole cell lysate: sc-364180.

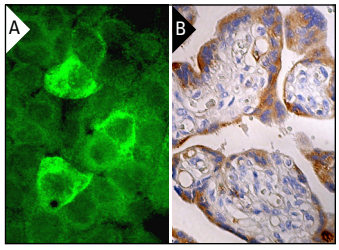
## STORAGE

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

## DATA




Pez (F-12): sc-373766. Western blot analysis of Pez expression in HUV-EC-C (**A**), SH-SY5Y (**B**), PC-12 (**C**) and AT3B-1 (**D**) whole cell lysates.




Pez (F-12): sc-373766. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoplasmic, membrane and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (**B**).

## SELECT PRODUCT CITATIONS


1. Mello, S.S., et al. 2017. A p53 super-tumor suppressor reveals a tumor suppressive p53-PTPN14-Yap axis in pancreatic cancer. Cancer Cell 32: 460-473.
2. Yun, H.Y., et al. 2019. Structural basis for recognition of the tumor suppressor protein PTPN14 by the oncoprotein E7 of human papillomavirus. PLoS Biol. 17: e3000367.
3. Fu, B., et al. 2020. PTPN14 aggravates inflammation through promoting proteasomal degradation of SOCS7 in acute liver failure. Cell Death Dis. 11: 803.
4. Fu, P., et al. 2020. Phospholipase D2 restores endothelial barrier function by promoting PTPN14-mediated VE-cadherin dephosphorylation. J. Biol. Chem. 295: 7669-7685.
5. Yang, Y., et al. 2021. Harmine alleviates atherogenesis by inhibiting disturbed flow-mediated endothelial activation via protein tyrosine phosphatase PTPN14 and YAP. Br. J. Pharmacol. 178: 1524-1540.
6. Leiendecker, L., et al. 2022. Human papillomavirus 42 drives digital papillary adenocarcinoma and elicits a germ-cell like program conserved in HPV-positive cancers. Cancer Discov. E-published.


## RESEARCH USE

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

## PROTOCOLS

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