

# Pez (T-20): sc-66618

## 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. TGF $\beta$ , 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.

## REFERENCES

- Smith, A.L., et al. 1995. Pez: a novel human cDNA encoding protein tyrosine phosphatase- and Ezrin-like domains. *Biochem. Biophys. Res. Commun.* 209: 959-965.
- Ogata, M., et al. 1999. Effects of overexpression of PTP36, a putative protein tyrosine phosphatase, on cell adhesion, cell growth, and cytoskeletons in HeLa cells. *J. Biol. Chem.* 274: 12905-12909.
- Ogata, M., et al. 1999. Regulation of phosphorylation level and distribution of PTP36, a putative protein tyrosine phosphatase, by cell-substrate adhesion. *J. Biol. Chem.* 274: 20717-20724.
- Aoyama, K., et al. 1999. Characterization of newly identified four isoforms for a putative cytosolic protein tyrosine phosphatase PTP36. *Biochem. Biophys. Res. Commun.* 266: 523-531.
- Wadham, C., et al. 2000. Translocation of protein tyrosine phosphatase Pez/PTPD2/PTP36 to the nucleus is associated with induction of cell proliferation. *J. Cell Sci.* 113: 3117-3123.
- Edwards, K., et al. 2001. Comparative analysis of the Band 4.1/Ezrin-related protein tyrosine phosphatase Pez from two *Drosophila* species: implications for structure and function. *Gene* 275: 195-205.
- Wadham, C., et al. 2003. The protein tyrosine phosphatase Pez is a major phosphatase of adherens junctions and dephosphorylates  $\beta$ -catenin. *Mol. Biol. Cell* 14: 2520-2529.
- Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.

## CHROMOSOMAL LOCATION

Genetic locus: Ptpn14 (mouse) mapping to 1 H6.

## RESEARCH USE

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

## SOURCE

Pez (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Pez of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-66618 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Pez (T-20) is recommended for detection of Pez of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for Pez siRNA (m): sc-62778, Pez shRNA Plasmid (m): sc-62778-SH and Pez shRNA (m) Lentiviral Particles: sc-62778-V.

Molecular Weight of Pez: 135 kDa.

Positive Controls: Mouse skeletal muscle tissue extract.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Pez (T-20): sc-66618. Western blot analysis of Pez expression in mouse skeletal muscle tissue extracts.

## STORAGE

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