

## PHT2 (S-12): sc-138530

### BACKGROUND

PHT2 (peptide/histidine transporter 2), also known as SLC15A3 (solute carrier family 15, member 3), OCTP (osteoclast transporter) or PTR3 (peptide transporter 3), belongs to the PTR2/POT (proton-coupled oligopeptide transporter) family. Existing in mammals, plants, fungi and yeast, POT family members utilize a proton-dependent mechanism to transport di- and tripeptide-based substrates across cell membranes. Because peptides are generally hydrophilic and difficult to transport across membrane barriers, information regarding the transport pathways of POT proteins is used in clinical applications for treatment of many disorders, including cancer and hypertension. Localizing to cell membranes, POT proteins contain 12 predicted transmembrane  $\alpha$ -helical spans, with a majority of the proteins having intracellular N- and C-termini. PHT2, a 581 amino acid protein, is highly expressed in lung, spleen and thymus, and weakly expressed in brain, liver, adrenal gland and heart.

### REFERENCES

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3. Rubio-Aliaga, I., et al. 2003. Targeted disruption of the peptide transporter Pept2 gene in mice defines its physiological role in the kidney. *Mol. Cell Biol.* 23: 3247-3252.
4. Fujita, T., et al. 2004. Functional characterization of brain peptide transporter in rat cerebral cortex: identification of the high-affinity type H<sup>+</sup>/peptide transporter PEPT2. *Brain Res.* 997: 52-61.
5. Daniel, H., et al. 2004. The proton oligopeptide cotransporter family SLC15 in physiology and pharmacology. *Pflugers Arch.* 447: 610-618.
6. Bhardwaj, R.K., et al. 2006. The functional evaluation of human peptide/histidine transporter 1 (hPHT1) in transiently transfected COS-7 cells. *Eur. J. Pharm. Sci.* 27: 533-542.
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8. Jerónimo, C., et al. 2010. DNA methylation markers for prostate cancer with a stem cell twist. *Cancer Prev. Res.* 3: 1053-1055.
9. Ibragimova, I., et al. 2010. Global reactivation of epigenetically silenced genes in prostate cancer. *Cancer Prev. Res.* 3: 1084-1092.

### CHROMOSOMAL LOCATION

Genetic locus: SLC15A3 (human) mapping to 11q12.2.

### SOURCE

PHT2 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PHT2 of human origin.

### RESEARCH USE

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

### 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-138530 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PHT2 (S-12) is recommended for detection of PHT2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with PHT1.

PHT2 (S-12) is also recommended for detection of PHT2 in additional species, including porcine.

Suitable for use as control antibody for PHT2 siRNA (h): sc-96706, PHT2 shRNA Plasmid (h): sc-96706-SH and PHT2 shRNA (h) Lentiviral Particles: sc-96706-V.

Molecular Weight of PHT2: 64 kDa.

### 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) 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.

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.