

# QPCT (L-14): sc-162054

## BACKGROUND

QPCT (glutamyl-peptide cyclotransferase) is a 361 amino acid protein that belongs to the glutamyl-peptide cyclotransferase family. QPCT is responsible for the presence of pyroglutamyl residues in many neuroendocrine peptides. QPCT binds one zinc ion per subunit and has a bias against acidic and tryptophan residues adjacent to the N-terminal glutamyl residue. The human QPCT gene shares 86% overall sequence identity with its bovine homolog. QPCT contains an N-terminal signal peptide region, several glycosylation and phosphorylation sites and two cysteine residues conserved between the bovine and human enzymes. Existing as two alternatively spliced isoforms, the QPCT gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, fruit fly, mosquito, *M. grisea* and *N. crassa*, and maps to human chromosome 2p22.2.

## REFERENCES

1. Busby, W.H., et al. 1987. An enzyme(s) that converts glutamyl-peptides into pyroglutamyl-peptides. Presence in pituitary, brain, adrenal medulla, and lymphocytes. *J. Biol. Chem.* 262: 8532-8536.
2. Song, L., et al. 1994. Molecular cloning, sequence analysis and expression of human pituitary glutamyl cyclase. *J. Mol. Endocrinol.* 13: 77-86.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607065. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Schilling, S., et al. 2004. Glutamyl cyclases unfold glutamyl cyclase activity under mild acid conditions. *FEBS Lett.* 563: 191-196.
5. Ezura, Y., et al. 2004. Association of multiple nucleotide variations in the pituitary glutamyl cyclase gene (QPCT) with low radial BMD in adult women. *J. Bone Miner. Res.* 19: 1296-1301.

## CHROMOSOMAL LOCATION

Genetic locus: QPCT (human) mapping to 2p22.2; Qpct (mouse) mapping to 17 E3.

## SOURCE

QPCT (L-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of QPCT 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.

Blocking peptide available for competition studies, sc-162054 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

QPCT (L-14) is recommended for detection of QPCT 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with QPCTL.

QPCT (L-14) is also recommended for detection of QPCT in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for QPCT siRNA (h): sc-94268, QPCT siRNA (m): sc-152611, QPCT shRNA Plasmid (h): sc-94268-SH, QPCT shRNA Plasmid (m): sc-152611-SH, QPCT shRNA (h) Lentiviral Particles: sc-94268-V and QPCT shRNA (m) Lentiviral Particles: sc-152611-V.

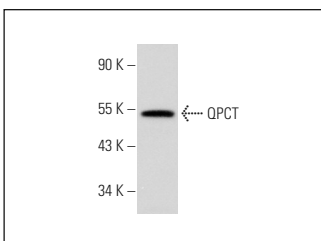
Molecular Weight of QPCT isoforms: 41/35 kDa.

Positive Controls: mouse pituitary gland extract: sc-364236.

## 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## DATA



QPCT (L-14): sc-162054. Western blot analysis of QPCT expression in mouse pituitary gland tissue extract.

## PROTOCOLS

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

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Try **QPCT (4E11): sc-517122**, our highly recommended monoclonal alternative to QPCT (L-14).