RPTPgamma, also known as Receptor-type tyrosine-protein phosphatase gamma, R-PTP-gamma or PTPRG, is a protein tyrosine phosphatase (PTP) that is a candidate tumor suppressor gene since it is located on human chromosome 3p14.2-p21, a region frequently deleted in certain types of renal and lung carcinomas. In situ hybridization analysis reveals that RPTP gamma mRNA is expressed in specific regions of the brain and that the localization of RPTP gamma changes during brain development. RPTP gamma is composed of a putative extracellular domain, a single transmembrane domain, and a cytoplasmic portion with two tandem catalytic tyrosine phosphatase domains. The extracellular domain contains a stretch of 266 amino acids with striking homology to the zinc-containing enzyme carbonic anhydrase (CAH), indicating that RPTP gamma and RPTP beta (HPTP zeta) represent a subfamily of receptor tyrosine phosphatases. RPTP gamma may have a function other than catalysis of hydration of metabolic CO2.

**Activity**

4 nmole/min/µg of enzyme; Determined using pNPP; Reaction conditions: 50 µM pNPP, 10 min incubation at 30°C, 0.3 µg enzyme.

**Purity**

>95% pure as determined by SDS-PAGE

**REFERENCES**


5: Chilton JK, Stoker AW. Expression of receptor protein tyrosine phosphatases in embryonic chick spinal cord.

**ORDERING INFORMATION**

**CATALOG NUMBER**

X1666E

**SIZE**

20 µg

**CUSTOMER STORAGE**

Enzyme should be stored at -20°C. Enzyme should be kept on ice when dispensing.

**SHIPPING CONDITIONS**

Ship on gel ice, store at -20°C immediately upon arrival

**STABILITY**

Products are stable for one year from purchase when stored properly

**CONCENTRATION**

See vial for concentration

**CONCENTRATION**

Recombinant enzyme produced in E. coli

For research use only. Not for use in human diagnostics or therapeutics.
ASSAY METHODS

MATERIALS
1. Assay Buffer: 50 mM HEPES, pH 7.4, 100 mM NaCl, 2 mM EDTA, 3 mM DTT
2. Stop solution: 2M K₂CO₃
3. 190 mM pNPP
4. Microtiter plate
5. Microtiter plate reader capable of measurements at 405 nm
6. Water bath or incubator at 30°C

PROCEDURE
1. Prepare reaction mixture:
   a. 73 µl assay buffer
   b. 26 µl pNPP (Final concentration of pNPP is 50 mM)
   c. 1 µl of RPTPgamma
2. Mix well and start reaction at 30°C in water bath and incubate for 10 min.
3. Add 100 µl per well of 2 M K₂CO₃ to stop the reaction.
4. Read absorbance at 405 nm using a microtiter plate reader.