



**RPTPgamma (801-1147) N Terminal GSTS Tag. E.coli Active Enzyme**

**BACKGROUND**

RPTP gamma, also known as Receptor-type tyrosine-protein phosphatase gamma, R-PTP-gamma or PTPRG is a protein tyrosine phosphatase (PTP) 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 CO<sub>2</sub>.

**ACTIVITY**

4 nmole/min/ $\mu$ g of enzyme; Determined using pNPP; Reaction conditions: 50  $\mu$ M pNPP, 10 min incubation at 30°C, 0.3  $\mu$ g enzyme.

**PURITY**

>95% pure as determined by SDS-PAGE

**APPLICATIONS**

Study of enzyme kinetics, regulation and to dephosphorylate target substances

**ORDERING INFORMATION**

**CATALOG NUMBER**

X1666E

**SIZE**

20  $\mu$ g

**CUSTOMER STORAGE**

Product should be stored at -80°C.

Aliquot to avoid freeze/thaw cycles

**FORMULATION**

Provided in 25 mM Tris-HCl, pH 8.0, 75 mM NaCl, 0.05% Tween-20, 50% glycerol, 2 mM EDTA, 1 mM DTT, 10 mM glutathione.

**SHIP CONDITIONS**

Ship on dry ice, freeze upon arrival

**STABILITY**

Products are stable for one year from purchase when stored properly

**CONCENTRATION**

See vial for concentration

**SOURCE**

Recombinant enzyme produced in E. coli

## **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 K<sub>2</sub>CO<sub>3</sub>
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  $\mu$ l assay buffer
  - b. 26  $\mu$ l pNPP (Final concentration of pNPP is 50 mM)
  - c. 1  $\mu$ l of RPTPgamma
2. Mix well and start reaction at 30°C in water bath and incubate for 10 min.
3. Add 100  $\mu$ l per well of 2 M K<sub>2</sub>CO<sub>3</sub> to stop the reaction.
4. Read absorbance at 405 nm using a microtiter plate reader.

### **REFERENCES**

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### **PRODUCT SPECIFIC REFERENCES**