PRL-1 (2-173) N termnal GST tag. E.coli Active Enzyme

Background

The product of the PRL-1 gene (alternate gene names PTP4A1 Synonyms: DKFZp779M0721, hPTPCAAX1) is a protein tyrosine phosphatase also known as phosphatase of regenerating liver, Protein tyrosine phosphatase type IVA, member 1, PTPCAAX1 or Hypothetical protein DKFZp779M0721. Protein tyrosine phosphatases play important roles in the regulation of cell growth, development, and differentiation. PRL -1 is one of the most interesting immediate early growth response genes in regenerating liver. The gene encodes a novel 20-kDa nuclear protein tyrosine phosphatase. Other than the signature sequence for PTPases, PRL-1 is not homologous to either the dual specificity PTPases (cdc25 and MKP-1) or monospecific PTPases. PRL-1 is elevated throughout the major proliferative phase of liver regeneration when hepatocytes and nonparenchymal cells in the liver are rapidly proliferating. PR-1 is also expressed at high levels in other proliferating cells including tumor cell lines such as hepatomas. PRL-1-transfected cells showed altered growth characteristics, including a faster doubling time, growth to a greater saturation density, altered morphology, and evidence of anchorage-independent growth. Overexpression of human PRL-1 in epithelial cells results in tumor formation in
nude mice.

Activity

3.3 pmole/min/μg of enzyme; Detemined using DiFMUP; Reaction conditions: 100 μM DiFMUP, 10 min incubation at 30ºC, 5 μg enzyme.

Purity

>75%

Applications

Ordering Information

Catalog Number
X1657E

Size
10 μg

Customer Storage
Enzyme should be stored at -20ºC. Enzyme should be kept on ice when dispensing

Formulation
Provided in 25 mM Tris-HCl, 75 mM NaCl, pH 8.0, 0.05% Tween, 5 mM DTT and 50% glycerol

Ship Conditions
Ship on gel ice, store at -20ºC immediately upon arrival

Stability
Products are stable for one year from purchase when stored properly

Concentration
See vial for concentration

Source
Recombinant enyzme produced in E. coli

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Assay Methods

Materials

1. Assay Buffer: 50 mM Bis-Tris, pH 7.63, 2 mM EDTA, 2 mM DTT
3. 10 mM DiFMUP
4. 96-well black microtiter plate
5. Microtiter plate reader capable of reading fluorescence at an excitation of 355 nm and emission at 460 nm
6. Water bath or incubator at 30ºC

Procedure

1. Prepare reaction mixture in a 96-well **black plate**:
a. 90 μl assay buffer
b. 1 μl DiFMUP (Final concentration of DiFMUP is 100 μM)
c. 1 μl of PRL-1
2. Mix well and start reaction at 30ºC in water bath and incubate for 10 min.
3. Add 100 μl per well of 2 M K_2CO_3 to stop the reaction.
4. Read fluorescence at 355/460 nm using a microtiter plate reader.

References

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Product Specific References

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