MEG-1 (637-926)/PTPN4 N-Terminal GST Tag. E.coli Active Enzyme

PP4R1, PPP4R1

Background

MEG-1, also know as Serine/threonine phosphatase 4 regulatory subunit 1, PPP4R1 or PP4R1 is crucial to cellular function. The catalytic subunit of MEG-1 or protein phosphatase 4 (PP4C) is 65% identical to PP2AC at the amino acid level and has been placed in the type 2A family of phosphatases. MEG-1 has been highly conserved between species sharing 91% amino acid identity between human and Drosophila. MEG-1 is predominantly localized in the nucleus in rat brain and liver but is most highly expressed in testis. MEG-1 is an essential enzyme in the development of Drosophila embryos.

Activity

3.8 nmole/min/μg of enzyme; Detemined using pNPP; Reaction conditions: 50 μM pNPP, 10 min incubation at 30ºC, 0.5 μg enzyme.

Purity

>90%

Applications

Ordering Information

Catalog Number
X1661E

Size
20 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 HEPES, pH 7.4, 100 mM NaCl, 2 mM EDTA, 3 mM DTT
2. Stop solution: 2M K_2CO_3
3. 190 mM pNPP
4. Microtiter plate
5. Microtiter plate reader capable of measurements at 405 nm
6. Water bath or incubator at 30ºC

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 MEG-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 absorbance at 405 nm using a microtiter plate reader.

References

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[2] Wada T., Miyata T., Inagi R., Nangaku M., Wagatsuma M., Suzuki D., Wadzinski B.E., Okubo K., Kurokawa K.; Cloning and characterization of a novel subunit of protein serine/threonine phosphatase 4 from mesangial cells.; J. Am. Soc. Nephrol. 12:2601-2608(2001).
[3] Zhang X, Ozawa Y, Lee H, Wen YD, Tan TH, Wadzinski BE, Seto E. Histone deacetylase 3 (HDAC3) activity is regulated by interaction with protein serine/threonine phosphatase 4.
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[4] Kloeker S, Wadzinski BE. Purification and identification of a novel subunit of protein serine/threonine phosphatase 4. J Biol Chem. 1999 Feb 26;274(9):5339-47.

Product Specific References

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