

Recombinant MEG-1 (637–926)/PTPN4 Active Enzyme

BACKGROUND

MEG-1, also known 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/ μ g of enzyme; Determined using pNPP; Reaction conditions: 50 μ M pNPP, 10 min incubation at 30°C, 0.5 μ g enzyme.

PURITY

>90% pure as determined by Coomassie-stained SDS gel

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 30°C

PROCEDURE

1. Prepare reaction mixture:
 - a. 73 μ l assay buffer
 - b. 26 μ l pNPP (Final concentration of pNPP is 50 mM)
 - c. 1 μ l of MEG-1
2. Mix well and start reaction at 30°C in water bath and incubate for 10 min.
3. Add 100 μ l per well of 2 M K_2CO_3 to stop the reaction.
4. Read absorbance at 405 nm using a microtiter plate reader.

ORDERING INFORMATION

CATALOG NUMBER
X1661E

SIZE
10 μ g

STORAGE CUSTOMER
Product should be stored at -20°C.
Aliquot to avoid freeze/thaw cycles

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

SHIP CONDITIONS
Ship on gel ice, freeze upon arrival

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

CONCENTRATION
0.5 mg/ml

SOURCE
Recombinant enzyme produced in *E. coli*

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

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. Genes Dev. 2005 Apr 1;19(7):827–39.
- [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.

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