

Recombinant MEG-2 (285–593)/PTPN9 Active Enzyme

BACKGROUND

MEG-2 also known as PTPN9 is a protein-tyrosine phosphatase originally isolated from peripheral neutrophilic polymorphonuclear leukocytes (PMN). MEG2 is predominantly cytosolic with components present in secondary and tertiary granules and secretory vesicles. MEG2 activity is inhibited after exposure of cells to opsonized zymosan or to phorbol 12-myristate 13-acetate but largely unaffected by the f-met-leu-phe (N-formyl-methionyl-leucyl-phenylalanine). Cysteine 515 is essential for catalytic activity of MEG-2, whereas the noncatalytic (N-terminal) domain of MEG2 negatively regulates the enzymatic activity of the C-terminal phosphatase domain. The activity of MEG2 is enhanced by specific polyphosphoinositides. MEG2 associates at an early stage with nascent phagosomes. MEG2 is a polyphosphoinositide-activated tyrosine phosphatase that may be involved in signaling events regulating phagocytosis, and essential antimicrobial function in the immune response.

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-2
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
X1662E

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.

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