



Protein Phosphatase DUSP1/MKP-1

Product Data Sheet

For Research Use Only, Not for use in diagnostic procedures

## Protein Phosphatase DUSP1/MKP-1

Human, recombinant protein expressed in *E. coli.*, Active

Cat# CY-E1373

Amount: 50µg (1.0µg/ul)

Lot:

### Introduction:

DUSP1 is a member of a family of dual-specificity phosphatases and contains a highly conserved C-terminal catalytic domain and an N-terminal Cdc25-like (CH2) domain. DUSP1, also known as MKP-1, inactivates MAP kinase by the concomitant dephosphorylation of both its phosphothreonine and phosphotyrosine residues. DUSP1/MKP-1 may play an important role in the human cellular response to environmental stress as well as in the negative regulation of cellular proliferation via the dephosphorylation of MAP kinase. A recent study also shows that DUSP1/MKP-1 is a key factor of major depressive disorder (MDD) and it may be a new drug targets for treating depression and possibly other mood disorders.

### Product Description:

Phosphatase domain of human DUSP1/MKP-1, containing an N-terminal GST tag, expressed in *E. coil.* and purified by GSH agarose chromatography.

### Gene Information:

The gene accession number is NM\_004417.

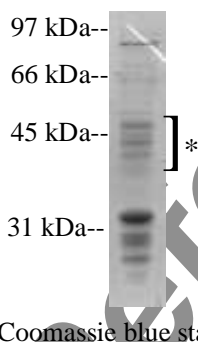
### Gene Aliases:

DUSP1, MKP-1, PTPN10, CL100

### Formulation:

Recombinant DUSP1/MKP-1 is supplied frozen in a buffer containing 100mM NaCl, 20mM Tris-HCl (pH 7.0), 1mM DTT, 1mM EDTA and 50% glycerol. Use a same buffer for dilution when needed.

### Molecular Weight:



Recombinant DUSP1/MKP-1 is calculated approximately 48 kDa based on its amino-acid sequence. SDS-PAGE analysis showed that many bands appeared in the range between 25 and 48 kDa. The amount and concentration of recombinant DUSP1/MKP-1 was evaluated by densitometry within the range indicated by the asterisk.



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#### **Specific Activity:**

18 units/ $\mu$ g. This unit value is determined at the point of production and may vary with time and various conditions. Specific Activity also varies among production lots.

#### **Unit Definitions:**

One unit is defined as the amount of phosphatase required to release 1 pmol of phosphate from 3-O-Methylfluorescein Phosphate (OMFP) per minute at 30°C.

#### **Storage:**

Store product at -70°C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, AVOID REPEATED HANDLING AND MULTIPLE FREEZE/THAW CYCLES.

#### **Stability:**

Unopened vial at -70 °C, for 1 year after delivery.

#### **References:**

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Nat Med. 16: 1328-32, 2010.

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