Mouse PPM1A / PP2CA / PP2C-alpha Protein (His Tag)

Catalog Number: **50277-M08E**

General Information

Gene Name Synonym:

2310003C21Rik; 2900017D14Rik; AI427932; AU017636; MMPa-2; MPPa-1

Protein Construction:

A DNA sequence encoding the mouse PPM1A (NP_032936.1) (Met 1-Trp 382) was expressed, with a polyhistide tag at the C-terminus.

Source: Mouse

Expression Host: E. coli

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met 1

Molecular Mass:

The recombinant mouse PPM1A consisting of 388 amino acids and has a calculated molecular mass of 43.3 kDa as estimated in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 10mM HEPES, 500 NaCl, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

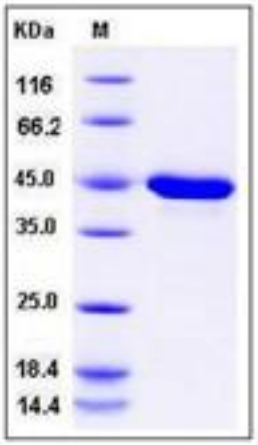
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Protein phosphatase 1A (PPM1A / PP2CA) is an enzyme belonging to the PP2C family of Ser / Thr protein phosphatases. Members of PP2C family are negative regulators of cell stress response pathways and the MAP kinases and MAP kinase kinases. It has also been demonstrated to inhibit the activation of p38 and JNK kinase cascades. PPM1A dephosphorylates and promotes nuclear export of TGFβ-activated Smad2/3. Ectopic expression of PPM1A abolishes TGFβ-induced antiproliferative and transcriptional responses, whereas depletion of PPM1A enhances TGFβ signaling in mammalian cells. It has been demonstrated that PPM1A / PP2CA, through dephosphorylation of Smad2/3, plays a critical role in terminating TGFβ signaling. Overexpression of PPM1A is reported to activate the expression of the tumor suppressor gene TP53 / p53, which leads to cell apoptosis.

References

1.Lin X, *et al.* (2006) PPM1A functions as a Smad phosphatase to terminate TGFbeta signaling. Cell. 125(5): 915-28. 2.Marc F, *et al.* (2003) Protein phosphatase 2C binds selectively to and dephosphorylates metabotropic glutamate receptor 3. Proc Natl Acad. 100 (26): 16006-11. 3.Mann DJ, *et al.* (1992) Mammalian protein serine/threonine phosphatase 2C: cDNA cloning and comparative analysis of amino acid sequences. Biochim Biophys Acta. 1130 (1): 100-4.