
Product Data Sheet

Product Name: PPP1R14A Human
 Cat. No.: GP22142
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Protein phosphatase 1 regulatory subunit 14A; 17 kDa PKC-potentiated inhibitory protein of PP1; CPI17; CPI-17; PPP1INL; PPP1R14A.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MAAQRLGKRV LSKLQSPSRA RGPGGSPGGL QKRHARVTVK YDRRELQRR L DVEKWIDGRL EELYRGMEAD MPDEINIDEL LELESEEERS RKIQGLLKSC GKPVEDFIQE LLAKLQGLHR QPGLRQPSPS HDGSLSP LQD RARTAHP.		
Formulation	The PPP1R14A protein solution (1mg/ml) contains 20mM Tris-HCl, pH-8, 0.2mM EDTA, 1mM DTT and 10% glycerol.		

Introduction

PPP1R14A is a phosphorylation-dependent inhibitor of smooth muscle myosin phosphatase. Inhibition of PPP1R14A results to increased myosin phosphorylation and enhances smooth muscle contraction in the absence of increased intracellular Ca(2+) concentration. Myosin phosphatase can reverse MYL (myosin light chain) phosphorylation to induce a state of relaxation. However, during agonist-induced contraction at constant Ca²⁺ concurrent inhibition of myosin phosphatase leads to increases in MYL phosphorylation and tension. These calcium-independent increases in myosin phosphorylation and tension are termed calcium sensitization. Human pregnancy is characterized by the increases of PKN1 expression and CPI-17 phosphorylation in the myometrium. PPP1R14A is mapped to chromosome 19q13.13-q13.2. PPP1R14A binds directly to protein kinase C and casein kinase I. PPP1R14A siRNA decreased the level of merlin phosphorylation and consequently Ras and ERK activity in human tumor cell lines. PKC/CPI-17 mediated pathway in histamine, triggers cytoskeletal rearrangements causing lung microvascular barrier compromise.

Stability

Caution: Product has not been fully validated for medical applications. For research use only.

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Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

Recombinant PPP1R14A produced in E.Coli is a single, non-glycosylated polypeptide chain containing 167 amino acids and having a molecular mass of 18kDa. PPP1R14A is fused to a 20 aa His Tag and is purified by conventional chromatography techniques.

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