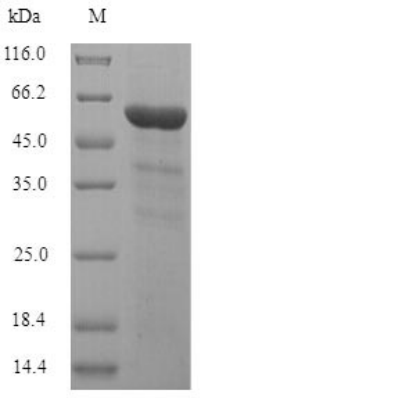
Recombinant Human Inositol polyphosphate-5-phosphatase A (INPP5A)

Product Code	CSB-EP622780HU
Relevance	Major isoenzyme hydrolyzing the calcium-mobilizing second messenger Ins(1,4,5)P3, this is a signal-terminating reaction.
Abbreviation	Recombinant Human INPP5A protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q14642
Product Type	Recombinant Proteins
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MAGKAAAPGTAVLLVTANVGSLFDDPENLQKNWLREFYQVVHTHKPHFMALH CQEFGGKNYEASMSHVDKFVKELLSSDAMKEYNRARVYLDENYKSQEHFTAL GSFYFLHESLKNIYQFDFKAKKYRKVAGKEIYSDTLESTPMLEKEKFPQDYFPE CKWSRKGFIRTRWCIADCAFDLVNIHLFHDASNLVAWETSPSVYSGIRHKALG YVLDRIIDQRFEKVSYFVFGDFNFRLDSKSVVETLCTKATMQTVRAADTNEVVK LIFRESDNDRKVMLQLEKKLFDYFNQEVFRDNNGTALLEFDKELSVFKDRLYEL DISFPPSYPYSEDARQGEQYMNTRCPAWCDRILMSPSAKELVLRSESEEKVVT YDHIGPNVCMGDHKPVFLAFRIMPGAGKPHAHVHKCC
Research Area	Signal Transduction
Source	E.coli
Target Names	INPP5A
Expression Region	1-409aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	63.5kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

To produce recombinant human Inositol polyphosphate-5-phosphatase A (INPP5A) in E. coli, the gene of interest (1-409aa of human INPP5A) is first co-cloned into an expression vector with an N-terminal 6xHis-SUMO-tag gene and transformed into E. coli cells. These cells are cultured to promote protein expression. Once sufficient growth is achieved, the cells are lysed, releasing the recombinant protein. The recombinant human INPP5A is purified from the cell lysate through affinity chromatography. The purity of the protein is checked using SDS-PAGE, exceeding 90%.

Human INPP5A is a vital enzyme involved in cellular signaling pathways and various diseases. It primarily functions as a signal-terminating enzyme associated with cell proliferation [1]. INPP5A is a member of the inositol polyphosphate 5-phosphatase family, which is involved in terminating downstream signaling of phosphatidylinositol-3 kinase [2]. Research indicates that INPP5A negatively regulates insulin signaling and glucose homeostasis in specific tissues [3]. Variations in the INPP5A gene have been linked to differences in cognitive abilities [4]. Evidence has shown that INPP5A is a prognostic marker in cutaneous squamous cell carcinoma, where it negatively regulates inositol signaling [5]. Loss of INPP5A has been identified as an early event in the development of cutaneous squamous cell carcinoma [6]. Furthermore, INPP5A has been implicated in melanomas, acting as a tumor suppressor by regulating PI3K/Akt signaling [2].

References:
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Shelf Life

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