

Human PIN1 / Rotamase Pin1 Protein



Sino Biological
Biological Solution Specialist

Catalog Number: 10282-HNCE

General Information

Gene Name Synonym:

DOD; UBL5

Protein Construction:

A DNA sequence encoding the mature form of human PIN1 (Q13526-1) (Met 1-Glu 163) was expressed and purified.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 95 % 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 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human PIN1 consisting of 163 amino acids and has a calculated molecular mass of 18.2 KDa. It migrates as an approximately 18 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 10% glycerol, pH 8.0.

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:

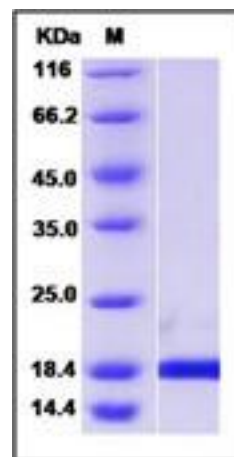
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Peptidyl-prolyl cis-trans isomerase Pin1, also known as Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1, Rotamase Pin1 and PIN1, peptidyl-prolyl cis/trans isomerase (PPIase), is a nucleus protein. PIN1 is a peptidyl-prolyl isomerase that can alter the conformation of phosphoproteins and so affect protein function and/or stability. PIN1 regulates a number of proteins important for cell-cycle progression and is presumed to operate as a molecular timer of this important process. PIN1 is an essential PPIase that regulates mitosis presumably by interacting with NIMA and attenuating its mitosis-promoting activity. PIN1 displays a preference for an acidic residue N-terminal to the isomerized proline bond. Alterations in the level of PIN1 can influence hyperproliferative diseases such as cancer. PIN1 has been implicated in multiple aspects of cell cycle regulation. It has been suggested that PIN1 function is required for both normal mitotic progression and reentry into the cell cycle from quiescence. PIN1 is also a target of several oncogenic pathways and is overexpressed in human breast cancer. Its overexpression can lead to upregulation of cyclin-D1 and transformation of breast epithelial cells in collaboration with the oncogenic pathways. PIN1 plays a pivotal role in breast development and may be a promising new anticancer target. Pin1 activity regulates the outcome of proline-directed kinase (e.g. MAPK, CDK or GSK3) signalling and consequently regulates cell proliferation (in part through control of cyclin D1 levels and stability) and cell survival. Recent data also implicate Pin1 as playing an important role in immune responses, at least in part by increasing the stability of cytokine mRNAs by influencing the protein complexes to which they bind.

References

- 1.Liou YC, *et al.* (2003) Role of the prolyl isomerase Pin1 in protecting against age-dependent neurodegeneration. *Nature*. 424(6948): 556-61.
- 2.Ryo A, *et al.* (2001) Pin1 regulates turnover and subcellular localization of beta-catenin by inhibiting its interaction with APC. *Nat Cell Biol.* 3(9): 793-801.
- 3.Geldner N, *et al.* (2001) Auxin transport inhibitors block PIN1 cycling and vesicle trafficking. *Nature*. 413(6854): 425-8.

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