Data Sheet (Cat.No.TMPY-02114)

TargetMol

PIN1 Protein, Human, Recombinant

General Information

Synonyms:	DOD;UBL5;peptidylprolyl cis/trans isomerase, NIMA-interacting 1
Protein Construction:	A DNA sequence encoding the mature form of human PIN1 (Q13526-1) (Met 1-Glu 163) was expressed and purified. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	Q13526-1
Molecular Weight:	18.2 kDa (predicted); 18 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM Tris, 10% glycerol, pH 8.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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.

Reference

Liou YC,et al.(2003) Role of the prolyl isomerase Pin1 in protecting against age-dependent neurodegeneration. Nature. 424(6948): 556-61.

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.

Geldner N,et al.(2001) Auxin transport inhibitors block PIN1 cycling and vesicle trafficking. Nature. 413(6854): 425-8.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481