

Recombinant Human Peptidylprolyl Cis/trans Isomerase, NIMA-interacting 1

Cat. No. PIN1-351H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human PIN1 protein expressed in E.coli, 18.2 kDa (163 aa).
Species	Human
Source	E.coli
Description	Human Pin 1 is a peptidyl-prolyl cis/trans isomerase (PPIase) that interacts with NIMA and essential for cell cycle regulation Pin1 is nuclear PPIase containing a WW protein interaction domain, and is structurally and functionally related to Ess1/Ptf1, an essential protein in budding yeast. PPIase activity is necessary for Ess1/Pin1 function in yeast. Pin1 is thus an essential PPIase that regulates mitosis presumably by interacting with NIMA and attenuating its mitosis-promoting activity. Substrates of Pin1 include the mitotic regulators (Cdc25 phosphatase and NIMA ,PLK I, Wee, and Myt1 kinases), several transcription factors like Catenin, c-Jun, and the tumor suppressor protein p53 , and some specific proteins like the RNA Pol II, the cytoskeleton protein tau, and the G1/S protein Cyclin D1.
Form	Liquid. In 20 mM Tris-HCl buffer (pH 7.5) containing 100 mM NaCl, 5 mM DTT, 20% glycerol.
Purity	> 95% by SDS - PAGE.
Concentration	1 mg/ml (determined by Bradford assay)

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Endotoxin Level	< 1.0 EU per 1 µg of protein (determined by LAL method)
Sequences of amino acids	MADEEKLPPG WEKRMSRSSG RVYYFNHITN ASQWERPSGN SSSGGKNG QG E PARVRCSHL LVKHSQSRRP SSWRQEKITR TKEEALELINGYIQIKSGE EDFESLASQF SDCSSAKARG DLGAFSRGQM QKPFEDASFA LRTGEMSG PV FTDSGIHIL RTE
Biological activity	Specific activity is > 330 nmoles/min/mg, and is defined as the amount of enzyme that cleaves 1umole of suc-AAFP-pNA per minute at 25°C in Tris-Hcl pH8.0 using chymotrypsin.
Activity Assay	1. Prepare 170ul assay buffer into a suitable container and pre-chill on ice before use: The final concentrations are 200 mM Tris-Hcl, pH 8.0, and 20nM chymotrypsin.2. Add 10ul of recombinant PIN 1 protein with 1ug in assay buffer. 3. Mix by inversion and equilibrate to 1°C and monitor the A405nm until the value is constant using a spectrophotometer.4. Add 20ul pre-chilled 5mM suc-AAFP-pNA. (Substrate was dissolved in TFE that contained 460mM LiCl to a concentration of 3 mM)5. Record the increase in A405 nm for 30 minutes at 25°C.
Storage	Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

GENE INFORMATION

Gene Name	PIN1 peptidylprolyl cis/trans isomerase, NIMA-interacting 1 [Homo sapiens]
Synonyms	PIN1; DOD; UBL5; peptidylprolyl cis/trans isomerase, NIMA-interacting 1; protein (peptidyl-prolyl cis/trans isomerase) NIMA-interacting 1; prolyl isomerase; peptidyl-prolyl cis/trans isomerase, NIMA-interacting; protein (peptidylprolyl cis/trans isomerase) NIMA-interacting 1; EC 5.2.1.8; dod; PPIase Pin1; Rotamase Pin1;

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peptidyl-prolyl cis/trans isomerase, NIMA-interacting 2; prolyl isomerase 2; protein (peptidyl-prolyl cis/trans isomerase); NIMA-interacting 1; protein (peptidylprolyl cis/trans isomerase); NIMA-interacting 1.

Gene ID 5300

mRNA Refseq NM_000143

Protein Refseq NP_000134

MIM 136850

UniProt ID P07954

Chromosome Location 1q42.1

Function fumarate hydratase activity, fumarate hydratase activity, lyase activity

PDB rendering based on 1f8a. Available structures: 1f8a, 1i6c, 1i8g, 1i8h, 1nmv, 1nmw, 1pin, 1zcn, 2f21, 2iti, 2itk

