



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human pDX1-11R Protein  
**Catalog Number:** hTF-0016  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human pDX1 is a transcription factor that is expressed in beta and delta cells of the islets of Langerhans and in scattered endocrine cells of the duodenum. pDX1 activates insulin, somatostatin, glucokinase, islet amyloid polypeptide and glucose transporter type 2 gene transcription. Furthermore, PDX1 plays a key role in the development of the pancreas and islet cell ontogeny. Recent publication indicates that when pDX1 combined with Ngn3 and MAFA gene, it could trans-differentiate exocrine cell to pancreatic  $\beta$ -cells.

Recombinant human pDX1 protein was constructed with C-terminal tag of 11 arginine domain, which efficiently delivery protein intracellularly. This protein was expressed in E. coli as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified. Incubating this protein in culture mediums at concentration of 2 -8  $\mu$ g/ml may be used for pancreatic beta cell trans-differentiation application when combined with Ngn3. MAFA and Pax4 proteins.

**Gene Symbol:** pDX1  
**Accession Number:** NP\_000200  
**Species:** Human  
**Size:** 50  $\mu$ g / Vial  
**Composition:** 0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.  
**Storage:** In Liquid. Keep at -20°C for long term storage. Product is stable at 4 °C for at least 7 days.

### Key References

Qiao Zhou, et al. *In vivo reprogramming of adult pancreatic exocrine cells to  $\beta$ -cells.* NATURE 455, 627-632 (2008)



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Hongyan Zhou, et al. *Generation of induced pluripotent stem cells using recombinant protein*. Cell Stem Cell. Vol 4. Issue 5: 381-384 (2009)

## Applications

1. Protein transduction for pancreatic  $\beta$ -cells in vitro differentiation.
2. Active recombinant protein, may be used for ELISA based DNA/Protein binding assay.
3. As specific protein substrate for kinase assay.

## Quality Control

1. Purity: > 90% by SDS-PAGE.
2. DNA binding assay: Under testing.

## Recombinant Protein Sequence

MNGEEQYYAATQLYKDPCAFQRGPAPPEFSASPPACLYMGRQPPPPPPHPFPGALGALEQGSPPD  
ISPYEVPPLADDDPAVAHLHHHLPAQLALPHPPAGPFPEGAEPGVLEEPNRVQLPFPWMKSTKAH  
AWKGQWAGGAYAAEPEENKRTRTAYTRAQLLELEKEFLFNKYISRPRRVELAVMLNLTERHIKI  
WFQNRMRKWKKEEDKKRGGGTAVGGGGVAEPEQDCAVTSGEELLALPPPPPPGGAVPPAAPVAA  
REGRLPPGLSASPQPSSVAPRRPQEPR**ESGGGSPQRRRRRRRRRRR**