



LD Biopharma, Inc.  
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Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human FoxD3-11R Protein  
**Catalog Number:** hTF-0110  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human FoxD3 gene belongs to the forkhead family of transcription factors which is characterized by a distinct forkhead domain, which binds to the consensus sequence 5'-A[AT]T[AG]TTTGTTT-3' and acts as a transcriptional repressor. It also acts as a transcriptional activator, promotes development of neural crest cells from neural tube progenitors. It restricts neural progenitor cells to the neural crest lineage while suppressing interneuron differentiation. It is required for maintenance of pluripotent cells in the pre-implantation and peri-implantation stages of embryogenesis. Mutations in this gene cause autoimmune susceptibility 1.

Recombinant human FoxD3 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 µg/ml may be used for studying of human neuronal cell differentiation or maintaining ES cell self-renewal.

**Gene Symbol:** FoxD3 (HFH2)  
**Accession Number:** NP\_036315  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 1.0 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

Guo, Y., et al. *The embryonic stem cell transcription factors Oct-4 and FoxD3 interact to regulate endodermal-specific promoter expression.* PNAS. 99 (6), 3663-3667 (2002)



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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 human ES or neuronal cell differentiation.
2. Active recombinant protein, may be used for ELISA based DNA/Protein binding assay.
3. As specific protein substrate for kinase assay.
4. Immunogen for specific antibody production.

## Quality Control

1. Purity: > 90% by SDS-PAGE.
2. DNA binding assay: Not tested yet.

## Recombinant Protein Sequence

29aa\_Tag\_GEFTLSGGGSASDMSGQTVLTAEDVDIDVVGEGDDGLEEKDSDAGCDSPAGPPEL  
RLDEADEVPPAAPHHGQPQPPHQQLTLPKEAAGAGAGPGGDVGAPEADGCKGGVGGEEGGASG  
GGPGAGSGSAGGLAPSKPKNSLVKPPYSYIALITMAILQSPQKCLTSLGICFISNRFPYYREK  
FPAWQNSIRHNLSLNDCFVKIPREPGNPGKGNWTLDPQSEDMFDNGSFLRRRKRFRKHQQEHL  
REQTALMMQSFAGAYSLAAAAGAAGPYGRPYGLHPAAAAGAYSHPAAAAAAAAAALQYPYALPP  
VAPVLPPAVPLLLPSGELGRKAAAFGSQGLPGLQLQLNSLGAAAAAAGTAGAAGTTASLIKSEPS  
ARPSFSIENIIGGGPAAPGGS AVGAGVAGGTGGSGGGSTAQSFLRPPGTVQSAALMATHQPLSL  
SRTTATIAPILSVPLSGQFLQPAASAAAAAAAAAAQAKWPAQ**LEESGGGSPGRRRRRRRRRR**