



LD Biopharma, Inc.  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human Pax6-11R Protein  
**Catalog Number:** hTF-0109  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human Pax6 (Isoform a) encodes paired box gene 6, one of many human homologs of the *Drosophila melanogaster* gene *prd*. In addition to the hallmark feature of this gene family, a conserved paired box domain, the encoded protein also contains a homeo box domain. Both domains are known to bind DNA, and function as regulators of gene transcription. This gene is expressed in the developing nervous system, and in developing eyes. Mutations in this gene are known to cause ocular disorders such as aniridia and Peter's anomaly. Alternatively spliced transcript variants encoding either the same or different isoform have been found for this gene.

Recombinant human Pax6 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 neural cell differentiation and eye development.

**Gene Symbol:** Pax6  
**Accession Number:** NP\_000271  
**Species:** Human  
**Size:** 50 µg / 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

Tang HK, et al. *Functional analysis of paired box missense mutations in the PAX6 gene.* Hum Mol Genet. Mar; 6 (3): 381-386. (1997)



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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 study of Neural cell differentiation and eye development.
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\_QNSHSGVNLGGVFNVRPLPDSTRQKIVELAHSGARPCDISRILQVSNGCVSKILGRYYE  
TGSIRPRAIGGSKPRVATPEVVSKIAQYKRECPSIFAWIIRDRLLESEGVCTNDNIPSVSSINRVLRNLAS  
EKQMGADGMYDKLRMLNGQTGSWGTRPGWYPGTSVPGQPTQDGCQQQEGGGENTNSISSNGEDSDEAQM  
RLQLKRKLQRNRTSFTQEQIEALEKEFERHTYDPVFAERERLAAKIDLPEARIQVWFSNRRAKWRREEKLR  
NQRQASNTPSHIPISSSFSTSVYQPIQPPTTPVSSFTSGSMLGRDALTNTYSALPPMPSFTMANNLP  
MQPPVPSQTSSYSCLMPTSPSVNGRSYDTYTPPHMQTHMNSQPMGTSGTTSTGLISPGVSPVQVPGSEP  
DMSQYWRLQL**LEESGGGGSPGRRRRRRRRRR**