



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

**Name of Product:** Recombinant Human Sox5-11R Protein  
**Catalog Number:** HTF-1767  
**Manufacturer:** LD Biopharma, Inc. USA

### Introduction

Human Sox5 gene encodes a member of the SOX (SRY-related HMG-box) family of transcription factors involved in the regulation of embryonic development and in the determination of the cell fate. The Sox5 may act as a transcriptional regulator after forming a protein complex with other proteins. It may play a role in chondrogenesis. Recent data indicated that SOX5 can activate the *HMGB2* enhancer for subsequent gero-protective effects such as rejuvenation of aged knee joints through epigenetic remodeling (over-expression of human Sox5 gene).

Full-length human Sox5 cDNA (762aa, Isoform-I, derived from BC060773) was constructed with codon optimization using gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal and 11 arginine (11R) tag at its C-terminal. It was expressed in *E. coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** SOX5 (L-Sox5; L-Sox5B; L-Sox5F)  
**Accession Number:** NP\_008871  
**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, Sucrose, DTT and others.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.

### Key References

Wang D, et al., *SOX5 promotes epithelial-mesenchymal transition and cell invasion via regulation of Twist1 in hepatocellular carcinoma*. Med. Oncol. 32 (2), 461 (2015)

Renjie W et al., *MiR-132, miR-15a and miR-16 synergistically inhibit*



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*pituitary tumor cell proliferation, invasion and migration by targeting Sox5.* Cancer Lett. 356 (2 PT B), 568-578 (2015)

Mata-Rocha M, et al., *The transcription factors Sox5 and Sox9 regulate Catsper1 gene expression.* FEBS Lett. 588 (18), 3352-3360 (2014)

Yaobin Jing, et al., *Genome-wide CRISPR activation screening in senescent cells reveals SOX5 as a driver and therapeutic target of rejuvenation.* Cell Stem Cell. <https://doi.org/10.1016/j.stem.2023.09.007>

## Applications

1. May be used for in vitro Sox5 mediated gene transcription regulation study for various cells, such as chondrogenesis differentiation by intracellular delivery of this Sox5-11R protein directly in vitro cell culture.
2. May be used for mapping Sox5 protein-protein interaction.
3. May be used as Sox5 specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential therapeutic target protein for treatment of aging related Knee Joint Disease, as rejuvenation applications.
5. As native human Sox5 immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Human Sox5-11R Protein Sequence ( 76.6 kD )

MASMTGGQOMGRGHHHHHENLYFQGGEFSSKR PASPYGEADGEVAMVTSRQKVEEEESDGLPAFHPLPH  
VSFPNKPHEEFQPVSLLTQETCGHRTPTSQHNTMEVDGNKVMSSFAPHNSSTSPQKAEEGGRQSGESLS  
STALGTPERRKGLADVVDTLKQRKMEELIKNEPEETPSIEKLLSKDWKDKLLAMGSGNFGEIKGTPESEL  
AEKERQLMGMINQLTSLREQLLAHDEQKLAASQIEKQRQOMELAKQQEQIARQQQQLLQQQHKINLL  
QQQIQVQGQLPPLMIPVFPDQRTLAAAQQGFLLPFGFSYKAGCSDPYVQLIPTTMAAAAAATPGLGP  
LQLQQLYAAQLAAMQVSPGGKLPGIPQGNLGAAVSPTS IHTDKSTNSPPPKSKEKTTLES LTQQLAVKQN  
EEGKF SHAMMDFNLSGDS DGSAGVSESR IYRESRGRSNEPHIKRPMNAFMVWAKDERRKILQAFPMHN  
SNISKILGSRWKAMTNLEKQPYEEQARLSKQHLEKYPDYKYKPRPKRTCLVDGKKLRIGEYKAIMRNR  
QEMRQYFNVGQQAQIPIATAGVVYPGAIAMAGMPSPHLPSEHSSVSSSPEPGMPVIQSTYGVKGEEPHIK  
EEIQ AEDINGEIYDEYDEEEDDPVDYGS DSENHIAGQANESGGGSGPGRRRRRRRRRRR