



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human Oncogenic cMyc-11R Protein
Catalog Number: hTF-0167
Manufacturer: LD Biopharma, Inc.

Introduction

cMyc gene encodes for a transcription factor that is believed to regulate expression of 15% of all gene in the cell, through binding on Enhancer Box sequences (E-boxes) and recruiting histone acetyltransferases (HATs). cMyc belongs to Myc family of transcription factors, which also includes N-Myc, and L-Myc. Myc family transcription factors contain the bHLH/LZ (basic helix-loop-helix Leucine Zipper) domain. Wild type cMyc expression and activity are tightly regulated at many levels with a typical half-life of 30 min, but its mutant form (T58A) can alter its stability, dramatically enhance cMyc activity. It has been shown that c-Myc combined with Oct4, Sox2 and Klf4 was able to induce pluripotency in both mouse and human fibroblast cells. This mutant cMyc protein may provide better efficiency in PiPS generation.

Recombinant human oncogenic cMyc-11R 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 8 µg/ml may be used for protein derived iPS (PiPS) generation when combined with Oct4-11R, Sox2-11R and Klf4-11R.

Gene Symbol: cMyc (T58A mutant)
Accession Number: NP_002458.2
Species: Human
Size: 50 µg / Vial
Composition: 0.50 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.



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Key References

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

Vladimir Torchilin. *Intracellular delivery of protein and peptide therapeutics*. Drug Discovery Today: Technologies. 01.002 (2009)

Simone E. Salghetti et al. *Destruction of Myc by ubiquitin-mediated proteolysis: Cancer-associated and transforming mutations stabilize Myc*. EMBO. Vol 18. pp.717-726 (1999)

Applications

1. Protein transduction for PiPs application in vitro.
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 activity was demonstrated using cMyc specific DNA binding oligo derived ELISA.
3. Mouse iPS generation activity was measured for each lot of products

Recombinant Protein Sequence

MDFFRVVENQPPATMPLNVSFTNRNYDLDYDSVQPYFYCDEEENFYQQQQQSELOPPAPSEDI
WKKFELLP (**T to A**)PPLSPSRRSGLCSPSYVAVTFPSLRGDNDGGGGSFSTADQLEMVTELL
GGDMVNQSFICDPDETFIKNI I IQDCMWSGFSAAKLVSEKLSYQAARKDSGSPNPARGHSV
CSTSSLYLQDLSAAASECIDPSVVFYPLNDSSSPKSCASQDSSAFSPSSDLSLSTESSPQGS
PEPLVLHEETPPTTSSDSEEEQEDEEIDVVSVEKRQAPGKRSESGSPSAGGHSKPPHSPLVLK
RCHVSTHQHNYAAPSTRKDYPAAKRVKLDVSRVLRQISNNRKCTSPRSSDTEENVKRRTHNVL
ERQRRNELKRSFFALRDQIPELENNEKAPKVIVLKKATAYILSVQAEQKLI SEEDLLRKRREQ
LKHKLEQLRNCA**ESGGGSPGRRRRRRRRRRR**