



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human Zscan4 Protein
Catalog Number: hTF-1108
Manufacturer: LD Biopharma, Inc.

Introduction

Human Zinc finger and SCAN domain-containing protein 4 (Zscan4) gene encodes an embryonic stem (ES) cell-specific transcription factor required to regulate ES cell pluripotency. Binds telomeres and plays a key role in genomic stability in ES cells by regulating telomere elongation. Acts as an activator of spontaneous telomere sister chromatid exchange (T-SCE) and telomere elongation in undifferentiated ES cells.

Full-length human Zscan4 cDNA (433aa, derived from BC101738) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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: Zscan4 (ZNF494)
Accession Number: NP_689890
Species: Human
Size: 50 µg / Vial
Composition: 0.4 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 -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Jing Jiang, et al., *Zscan4 promotes genomic stability during reprogramming and dramatically improves the quality of iPS cell as demonstrated by tetraploid complementation.* Cell Research 23.92-106.(2013).



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Zalzman, M., et al., *Zscan4 regulates telomere elongation and genomic stability in ES cells*. Nature 464 (7290), 858-863 (2010).

Applications

1. May be used for in vitro Zscan4 mediated genomic stability during iPS cell generation study with “ProFectin” based intracellular delivery of this protein. Potential enhancer reagent for improving iPS generation efficiency when combined with other protein derived iPS method, such as OSKC strategy.
2. May be used as specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for protein-protein interaction mapping
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFALDLRTIFQCEPSENNLGSSENSAFQQSQGPVQRE
EGISEFSRMVLNSFQDSNNSYARQELQRLYRIFHSWLQPEKHSKDEIISLLVLEQFMIGGHCND
KASVKEKWKSSGKNLERFIEDLTDD SINPPALVHVHMQGQEALFSEDMPLRDVIVHLTKQVNAQ
TTREANMGTPSQTSQDTSLETGQGYEDEQDGWNSSSKTTRVNENITNQGNIIVSLIIIQEENGP
RPEEGVSSDNPYNSKRAELVTARSQEGSINGITFQGVPMVMGAGCISQPEQSSPESALTHQSN
EGNSTCEVHQKGSQSHGVQKSYKCEECPKVFKYLCHLLAHQRRHRNERPFVCPECQKGGFFQISDLR
VHQI IHTGKKPFTCSMCKKSF SHKTNLRSHERIHTGEKPYTCPFCKTSYRQSSTYHRHMRTHEK
ITLPSVPSTPEAS