



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

**Name of Product:** Recombinant Human TCEA1 Protein  
**Catalog Number:** hTF-1539  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human transcription elongation factor A protein 1 (TCEA1) is necessary for efficient RNA polymerase II transcription elongation past template-encoded arresting sites. The arresting sites in DNA have the property of trapping a certain fraction of elongating RNA polymerases that pass through, resulting in locked ternary complexes. Cleavage of the nascent transcript by S-II allows the resumption of elongation from the new 3'-terminus. As recent data indicated that RNA polymerase II elongation rate controls a sub-population gene mRNA splicing, TCEA1 may play a role in regulating mRNA splicing too.

Full-length human TCEA1 cDNA (300aa) was constructed with codon optimization technology 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. It was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** TCEA1 (GTF2S; SII; TF2S; TFIIIS)  
**Accession Number:** NP\_006747  
**Species:** Human  
**Size:** 20 µg / Vial  
**Composition:** 0.20 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 7 days.

### Key References

Shema E, et al., *RNF20 inhibits TFIIIS-facilitated transcriptional elongation to suppress*



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*pro-oncogenic gene expression. Mol. Cell 42 (4), 477-488 (2011)*

Mackinnon-Roy C, et al., *RNA interference against transcription elongation factor SII does not support its role in transcription-coupled nucleotide excision repair. Mutat. Res. 706 (1-2), 53-58 (2011)*

Asp J, et al., *CHCHD7-PLAG1 and TCEA1-PLAG1 gene fusions resulting from cryptic, intrachromosomal 8q rearrangements in pleomorphic salivary gland adenomas. Genes Chromosomes Cancer 45 (9), 820-828 (2006)*

## **Applications**

1. May be used for in vitro TCEA1 mediated RNA polymerase II transcription elongation regulation in DNA repairing or oncogene gene expression study with “ProFectin” reagent based intracellular delivery of this protein.
2. May be used as specific protein substrate for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for TCEA1 protein-protein interaction mapping.
4. As immunogen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHENLYFQGEDEVVRF~~AKKMDKMVQK~~KNAAGALDLLKELKNI PMTLE  
LLQSTRIGMSVNAIRKQSTDEEVTSLAKSLIKSWKKLLDGPSTEKDLDEKKKEPAITSONSPEA  
REESTSSGNVSNRKDETNARDTYVSSFPAPSTSDSVRLKCREMLAAALRTGDDYIAIGADEEE  
LGSQIEEAIYQEIRNTDMKYKNRVRSRISNLKDAKNPNLRKNVLCGNIPPDFARMTAEEMASD  
ELKEMRKNLTKEAIREHQMAKTGGTQTDLFTCGKCKKKNCTY~~TQVQ~~TRSADEPMTTFVVCNECG  
NRWKFC