



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

**Name of Product:** Recombinant Human GATA1 Protein  
**Catalog Number:** hTF-1526  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human globin transcription factor 1 (GATA1) gene encodes a protein which belongs to the GATA family of transcription factors. The protein plays an important role in erythroid development by regulating the switch of fetal hemoglobin to adult hemoglobin. Mutations in this gene have been associated with X-linked dyserythropoietic anemia and thrombocytopenia.

Full-length human GATA1 cDNA (412 aa) was constructed with full-length gene synthesis using 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:** GATA1 (ERYF-1; GF-1; NF-E1; NFE1)  
**Accession Number:** NP\_002040  
**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

Wu J, et al., *PML4 facilitates erythroid differentiation by enhancing the transcriptional activity of GATA-1*. Blood 123 (2), 261-270 (2014)

Mizuta S, et al., *CCAR1/CoCoA pair-mediated recruitment of the Mediator defines a*



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*novel pathway for GATA1 function. Genes Cells 19 (1), 28-51 (2014)*

Elagib KE, et al., *Calpain 2 activation of P-TEFb drives megakaryocyte morphogenesis and is disrupted by leukemogenic GATA1 mutation. Dev. Cell 27 (6), 607-620 (2013)*

## **Applications**

1. May be used for in vitro GATA1 mediated gene transcription regulation for *erythroid differentiation* 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 GATA1 protein-protein interaction mapping.
4. As immunogen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHENLYFQGEFPGLGSLGTSEPLPQFVDPALVSSTPESGVFFPSGPE  
GLDAAASSTAPSTATAAAAALAYYRDAEAYRHSPVFQVYPLLNCMEGIPGGSPYAGWAYGKTGL  
YPASTVCPTREDSPPQAVEDLDGKGSTSFLETLKTERLSPDLLTLGPALPSSLPVPNSAYGGPD  
FSSTFFSPTGSPLNSAAYSSPKLRGTLPLPPCEARECVNCGATATPLWRRDRTGHYLCNACGLY  
HKMNGQNRPLIRPKKRLIVSKRAGTQCTNCQTTTTTLWRRNASGDPVCNACGLYYKLVHQRPL  
TMRKDIQTRNRKASGKGGKRGSSLGGTGAAEGPAGGFMMVVAGGSGSGNCGEVASGLTLGPPG  
TAHLYQGLGPVVLSGPVSHLMPFPGPLLGSPTGSFPTGMPPTTSTTVVAPLSS