



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

**Name of Product:** Recombinant Human TOX4 Protein  
**Catalog Number:** hTF-1638  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

The PWWP domain is a 70–135 amino acid sequence motif, which is conserved between more than 60 eukaryotic proteins characterized for their DNA or chromatin interaction. Initially discovered in the HDGF and WHSC1 proteins, it has been recently characterized as a new “reader” of specific histone methylations. Several studies have highlighted the role of this domain in different nuclear processes, such as DNA methylation or repair, transcription regulation or retroviral integration. TOX4 belongs to the HMG domain proteins family, also carry PWWP domain. Its N-terminus domain was characterized as a strong transcription activator. Tox4 is a component of the PTW/PP1 phosphatase complex, which plays a role in the control of chromatin structure and cell cycle progression during the transition from mitosis into interphase. Recent data indicated that Tox4 plays an important role in controlling viral replication in host cell, such as HIV-1 infection, and DNA damage repair pathway in cancer cell chemotherapy.

Full-length human TOX4 (620 aa, Isoform-I) gene was constructed with 29 aa N-terminal T7 / His / TEV cleavage site Tag and 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:** TOX4 (LCP1; MIG7; KIAA0737; C14orf92)  
**Accession Number:** NP\_055643  
**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, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 7 days.

### Key References



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Morchikh M, et al., *TOX4 and NOVA1 proteins are partners of the LEDGF PWWP domain and affect HIV-1 replication*. PLoS ONE 8 (11), E81217 (2013)

Tessema M, et al., *Differential epigenetic regulation of TOX subfamily high mobility group box genes in lung and breast cancers*. PLoS ONE 7 (4), E34850 (2012)

Christophe Bounaix Morand du Puch C, et al., *TOX4 and its binding partners recognize DNA adducts generated by platinum anticancer drugs*. Arch. Biochem. Biophys. 507 (2), 296-303 (2011)

## Applications

1. May be used for in vitro TOX4 mediated histone methylations / chromosomal structure regulation study for various cells 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 TOX4 protein-protein interaction mapping.
4. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFEFPPGGNDNYLTITGPSHPFLSGAETFHTPSLGDEE  
FEIPPIISLSDPSLAVSDVVGHFDDLADPSSSQDGSFSAQYGVQTLDMVPVGMTHGLMEQGGGLL  
SGGLTMDLDHSIGTQYSANPPVTIDVPMTDMTSGLMGHSQLTTIDQSELSSQLGLSLGGGTILP  
PAQSPEDRLSTTPSPTSSLHEDGVEDFRRQLPSQKTVVVEAGKKQKAPKKRKKKDPNEPQKPVS  
AYALFFRDTQAAIKGQNP NATFGEVSKIVASMWDSLGEEQKQVYKRKTEAAKKEYLKALAAAYKD  
NQECQATVETVELDPAPPSQTPSPPPMATVDPASPAPASIEPPALSPSIVVNSTLSSYVANQAS  
SGAGGQPNITKLIITKQMLPSSITMSQGGMVTVIPATVVTSRGLQLGQTSTATIQPSQQAQIVT  
RSVLQAAAAAAAAAASMQLPPRLQPPPLQOMPQPPTQQQVTILQQPPPLQAMQQPPPQKVRINL  
QQQPPPLQIKSVPLPTLKMQTTLVPPTVESSPERPMNNSPEAHTVEAPSPETICEMITDVVPEV  
ESPSQMDVELVSGSPVALSPQPRCVRSGCENPPIVSKDWDNEYCSNECVVKHCRDVFVLAWSR  
NSNTVVVFK