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Datasheet for ABIN3074634  
**TOX Protein (AA 1-526) (Strep Tag)**

### Overview

Quantity:	1 mg
Target:	TOX
Protein Characteristics:	AA 1-526
Origin:	Human
Source:	Tobacco ( <i>Nicotiana tabacum</i> )
Protein Type:	Recombinant
Purification tag / Conjugate:	This TOX protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

### Product Details

Sequence: MDVRFYPPPA QPAAAPDAPC LGPSPCLDPY YCNKFDGENM YMSMTEPSQD YVPASQSYPG  
PSLESEDFNI PPITPPSLPD HSLVHLNEVE SGYHSLCHPM NHNGLLPFHP QNMDLPEITV  
SNMLGQDGT LNSNSISVMPD IRNPEGTQYS SHPQMAAMRP RGQPADIRQQ PGMMMPHGQLT  
TINQSQLSAQ LGLNMGGSNV PHNSPSPPGS KSATPSPSSS VHEDEGDDTS KINGGEKRPA  
SDMGKKPKTP KKKKKKDPNE PQKPV SAYAL FFRDTQAAIK GQNP NATFGE VSKIVASMWD  
GLGEEQKQVY KKKTEAAKKE YLKQLAAYRA SLVSKSYSEP VDVKTSQPPQ LINSKPSVFH  
GPSQAHSALY LSSH YHQPG MNP HLTAMHP SLPRNIAPKP NNQMPVTVSI ANMAVSPPPP  
LQISPPLHQH LNMQQHQPLT MQQPLGNQLP MQVQSALHSP TMQQGFTLQP DYQTIINPTS  
TAAQVVTQAM EYVRSGCRNP PPQPVDWNNND YCSSGGMQRD KALYLT

**Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**

### Characteristics:

#### Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

#### Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

#### Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

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### Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and

## Product Details

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Western blot.

Purity: >80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

## Target Details

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Target: TOX

Alternative Name: TOX ([TOX Products](#))

Background: Thymocyte selection-associated high mobility group box protein TOX (Thymus high mobility group box protein TOX),FUNCTION: Transcriptional regulator with a major role in neural stem cell commitment and corticogenesis as well as in lymphoid cell development and lymphoid tissue organogenesis (By similarity). Binds to GC-rich DNA sequences in the proximity of transcription start sites and may alter chromatin structure, modifying access of transcription factors to DNA. During cortical development, controls the neural stem cell pool by inhibiting the switch from proliferative to differentiating progenitors. Beyond progenitor cells, promotes neurite outgrowth in newborn neurons migrating to reach the cortical plate. May activate or repress critical genes for neural stem cell fate such as SOX2, EOMES and ROBO2 (By similarity). Plays an essential role in the development of lymphoid tissue-inducer (LTi) cells, a subset necessary for the formation of secondary lymphoid organs: peripheral lymph nodes and Peyer's patches. Acts as a developmental checkpoint and regulates thymocyte positive selection toward T cell lineage commitment. Required for the development of various T cell subsets, including CD4-positive helper T cells, CD8-positive cytotoxic T cells, regulatory T cells and CD1D-dependent natural killer T (NKT) cells. Required for the differentiation of common lymphoid progenitors (CMP) to innate lymphoid cells (ILC) (By similarity). May regulate the NOTCH-mediated gene program, promoting differentiation of the ILC lineage. Required at the progenitor phase of NK cell development in the bone marrow to specify NK cell lineage commitment (PubMed:21126536) (By similarity). Upon chronic antigen stimulation, diverts T cell development by promoting the generation of exhaustive T cells, while suppressing effector and memory T cell programming. May regulate the expression of genes encoding inhibitory receptors such as PDCD1 and induce the exhaustion program, to prevent the overstimulation of T cells and activation-induced cell death (By similarity). {ECO:0000250|UniProtKB:Q66JW3, ECO:0000269|PubMed:21126536}.

Molecular Weight: 57.5 kDa

UniProt: [O94900](#)

## Application Details

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**Application Notes:** In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

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During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

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**Restrictions:** For Research Use only

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## Handling

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**Format:** Liquid

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**Buffer:** The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.

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**Handling Advice:** Avoid repeated freeze-thaw cycles.

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**Storage:** -80 °C

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**Storage Comment:** Store at -80°C.

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**Expiry Date:** Unlimited (if stored properly)

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