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Datasheet for ABIN3079177  
**DUX4 Protein (AA 1-424) (Strep Tag)**

**1** Image

Overview

Quantity:	1 mg
Target:	DUX4
Protein Characteristics:	AA 1-424
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This DUX4 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence: MALPTPSDST LPAEARGRGR RRRLVWTPSQ SEALRACFER NPYPGIATRE RLAQAIGIPE  
 PRVQIWFQNE RSRQLRQHRR ESRPWPGRRG PPEGRRKRTA VTGSQTALLL RAFEKDRFPG  
 IAAREELARE TGLPESRIQI WFQNRRARHP GQGGRAPAQA GGLCSAAPGG GHPAPSWVAF  
 AHTGAWGTGL PAPHVPCAPG ALPQGAFVSQ AARAAPALQP SQAAPAEGIS QPAPARGDFA  
 YAAPAPPDGA LSHPQAPRWP PHPGKSREDR DPQRDGLPGP CAVAQPGPAQ AGPQGQGVLA  
 PPTSQGSPWW GWGRGPQVAG AAWEPQAGAA PPPQPAPPDA SASARQQMQ GIPAPSALQ  
 EPAPWSALPC GLLLDELLAS PEFLQQAQPL LETEAPGELE ASEEAASLEA PLSEEEYRAL LEEL

**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:
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- 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 Exspasy'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 Western blot.

## Product Details

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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)
Grade:	Crystallography grade

## Target Details

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Target:	DUX4
Alternative Name:	DUX4 ( <a href="#">DUX4 Products</a> )
Background:	<p>Double homeobox protein 4 (Double homeobox protein 10),FUNCTION: [Isoform 1]: Transcription factor that is selectively and transiently expressed in cleavage-stage embryos (PubMed:28459457). Binds to double-stranded DNA elements with the consensus sequence 5'-TAATCTAATCA-3' (PubMed:28459457, PubMed:28459454, PubMed:29572508, PubMed:30540931, PubMed:30315230). Binds to chromatin containing histone H3 acetylated at 'Lys-27' (H3K27ac) and promotes deacetylation of H3K27ac. In parallel, binds to chromatin that lacks histone H3 acetylation at 'Lys-27' (H3K27ac) and recruits EP300 and CREBBP to promote acetylation of histone H3 at 'Lys-27' at new sites (PubMed:26951377). Involved in transcriptional regulation of numerous genes, primarily as transcriptional activator, but mediates also repression of a set of target genes (PubMed:17984056, PubMed:27378237, PubMed:26951377, PubMed:28459457, PubMed:28459454, PubMed:29618456, PubMed:30540931, PubMed:29572508). Promotes expression of ZSCAN4 and KDM4E, two proteins with essential roles during early embryogenesis (PubMed:27378237, PubMed:26951377, PubMed:28459457, PubMed:29618456). Heterologous expression in cultured embryonic stem cells mediates also transcription of HERVL retrotransposons and transcripts derived from ACRO1 and HSATII satellite repeats (PubMed:28459457). May activate expression of PITX1 (PubMed:17984056). May regulate microRNA (miRNA) expression (PubMed:24145033). Inappropriate expression can inhibit myogenesis and promote apoptosis (PubMed:26951377, PubMed:28935672, PubMed:29618456).</p> <p>{ECO:0000269 PubMed:17984056, ECO:0000269 PubMed:24145033, ECO:0000269 PubMed:26951377, ECO:0000269 PubMed:27378237, ECO:0000269 PubMed:28459454, ECO:0000269 PubMed:28459457, ECO:0000269 PubMed:28935672, ECO:0000269 PubMed:29572508, ECO:0000269 PubMed:29618456, ECO:0000269 PubMed:30315230, ECO:0000269 PubMed:30540931}., FUNCTION: [Isoform 2]: Probably inactive as a transcriptional activator, due to the absence of the C-terminal region that is important for transcriptional activation. Can inhibit transcriptional activation mediated by isoform 1.</p>

## Target Details

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Heterologous expression of isoform 2 has no deleterious effect on cell survival.  
{ECO:0000269|PubMed:29618456}.

Molecular Weight: 44.9 kDa

UniProt: [Q9UBX2](#)

## 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.

Comment: 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!

Restrictions: For Research Use only

## Handling

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Format: Liquid

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

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)



**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process