

Datasheet for ABIN3135531

SIX Homeobox 1 Protein (SIX1) (AA 1-284) (Strep Tag)



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Overview

Quantity:	1 mg
Target:	SIX Homeobox 1 (SIX1)
Protein Characteristics:	AA 1-284
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SIX Homeobox 1 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), ELISA, Western Blotting (WB)

Product Details

Sequence:	<p>MSMLPSFGFT QEQVACVCEV LQQGGNLERL GRFLWSLPAC DHLHKNESVL KAKAVVAFHR GNFRELYKIL ESHQFSPHNH PKLQQLWLKA HYVEAEKLRG RPLGAVGKYR VRRKFPLPRT IWDGEETSYC FKEKSRGVLR EWYAHNPYPs PREKRELAEA TGLTTTQVSN WFKNRRQRDR AAEAKERENT ENNNSSSNKQ NQLSPLEGGK PLMSSSEEEF SPPQSPDQNS VLLLQSNMGH ARSSNYSLPG LTASQPSHGL QAHQHQLQDS LLGPLTSSLV DLGS</p> <p>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.</p>
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Characteristics:	<p>Key Benefits:</p> <ul style="list-style-type: none"> • 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.
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- 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.

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.
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

Target:	SIX Homeobox 1 (SIX1)
Alternative Name:	Six1 (SIX1 Products)
Background:	<p>Homeobox protein SIX1 (Sine oculis homeobox homolog 1),FUNCTION: Transcription factor that is involved in the regulation of cell proliferation, apoptosis and embryonic development (PubMed:12215533, PubMed:12668636, PubMed:12834866, PubMed:14628042, PubMed:14695375). Plays an important role in the development of several organs, including kidney, muscle and inner ear (PubMed:12668636, PubMed:12783782, PubMed:12834866, PubMed:14628042, PubMed:14695375). Depending on context, functions as a transcriptional repressor or activator (PubMed:14628042). Lacks an activation domain, and requires interaction with EYA family members for transcription activation (By similarity). Mediates nuclear translocation of EYA1 and EYA2 (By similarity). Binds the 5'-TCA[AG][AG]TTNC-3' motif present in the MEF3 element in the MYOG promoter and CIDEA enhancer (By similarity). Regulates the expression of numerous genes, including MYC, CCNA1, CCND1 and EZR (PubMed:16488997). Acts as an activator of the IGFBP5 promoter, probably coactivated by EYA2 (PubMed:11978764). Repression of precursor cell proliferation in myoblasts is switched to activation through recruitment of EYA3 to the SIX1-DACH1 complex (PubMed:14628042). During myogenesis, seems to act together with EYA2 and DACH2. Regulates the expression of CCNA1 (By similarity). Promotes brown adipocyte differentiation (PubMed:27923061). {ECO:0000250 UniProtKB:Q15475, ECO:0000269 PubMed:11978764, ECO:0000269 PubMed:12215533, ECO:0000269 PubMed:12668636, ECO:0000269 PubMed:12783782, ECO:0000269 PubMed:12834866, ECO:0000269 PubMed:14628042, ECO:0000269 PubMed:14695375, ECO:0000269 PubMed:16488997, ECO:0000269 PubMed:27923061}.</p>
Molecular Weight:	32.2 kDa
UniProt:	Q62231
Pathways:	Sensory Perception of Sound , Regulation of Muscle Cell Differentiation , Tube Formation , Skeletal Muscle Fiber Development

Application Details

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

Application Details

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Restrictions: For Research Use only

Handling

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)