

Datasheet for ABIN3135401

SIX4 Protein (AA 2-775) (His tag)[Go to Product page](#)**1** Image

Overview

Quantity:	1 mg
Target:	SIX4
Protein Characteristics:	AA 2-775
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This SIX4 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

Product Details

Sequence:	SSSSPTGQIA SAADIKQENG MESASEGQEA HREVAGGAAA GLSPAPAPF PLEPGDAAAA SRVSREEGAA AAGAADQVQL HSELLGRHQH AAAAQPPPLAF SPDHVACVCE ALQQGGNLDR LARFLWSLPQ SDLLRGNESL LKARALVAFH QGIYPELYSI LESHFSFESAN HPLLQQLWYK ARYTEAERAR GRPLGAVDKY RLRRKFPLPR TIWDGEETVY CFKEKSRNAL KELYKQNRYP SPAEKRLHAK ITGLSLTQVS NWFKNRRQRD RNPSETQSKS ESDGNPSTED ESSKGHEDLS PHPLSGASDG VTNLSLSSHV EPVYMQQIGN AKISLSSSGV LLNGSLVPAS TSPVFLNGNS FIQGHNGVIL NGLNVGNTQT VSLNPPKMSS NIVGNGIAMT DILGSTSQDV KEFKVLQSSA VNSAATTSYS PSAPVSFPGL IPCTEVKREG IQTVASQDGG SVVTFTTPVQ INQYGIVQIP NSGANGQFLN GSIGFSPLQL PPVSVAASQG NLSVTPSTSD GSTFTSEPAT VQHGKFLFLSP LTPSAVVYTV PNSGQTVGAV KQEGLERGLV FSQLMNVNHS AQVNASLSSE NLSGSGLHPL TSSLVNVSAH HGFSLTPTL LNPTLNPD L AESQPVSA PV ASKCTVSSVS NTNYATLQNC SLIPGQDLLS GPMTQAALGE IVPTAEEQVS HASTAVHQDF VREQRLVLQS VPNIKENFLQ
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NSENKATNNL MMLDSKSKYV LDGMVEAGCE DLGTDKKELA KLQTVQLDED MQDL

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Six4 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- 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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's protparam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Sterility:

0.22 µm filtered

Endotoxin Level:

Protein is endotoxin free.

Product Details

Grade: Crystallography grade

Target Details

Target: SIX4

Alternative Name: Six4 ([SIX4 Products](#))

Background: Transcriptional regulator which can act as both a transcriptional repressor and activator by binding a DNA sequence on these target genes and is involved in processes like cell differentiation, cell migration and cell survival. Transactivates gene expression by binding a 5'-[CAT]A[CT][CT][CTG]GA[GAT]-3' motif present in the Trex site and from a 5'-TCA[AG][AG]TTNC-3' motif present in the MEF3 site of the muscle-specific genes enhancer (PubMed:14966291). Acts cooperatively with EYA proteins to transactivate their target genes through interaction and nuclear translocation of EYA protein (PubMed:10490620). Acts synergistically with SIX1 to regulate target genes involved in formation of various organs, including muscle, kidney, gonad, ganglia, olfactory epithelium and cranial skeleton. Plays a role in several important steps of muscle development. Controls the genesis of hypaxial myogenic progenitors in the dermomyotome by transactivating PAX3 and the delamination and migration of the hypaxial precursors from the ventral lip to the limb buds through the transactivation of PAX3, MET and LBX1 (PubMed:15788460). Controls myoblast determination by transactivating MYF5, MYOD1 and MYF6 (PubMed:15788460, PubMed:17592144). Controls somitic differentiation in myocyte through MYOG transactivation (PubMed:15788460). Plays a role in synaptogenesis and sarcomere organization by participating in myofiber specialization during embryogenesis by activating fast muscle program in the primary myotome resulting in an up-regulation of fast muscle genes, including ATP2A1, MYL1 and TNNT3 (PubMed:19962975, PubMed:21884692). Simultaneously, is also able to activate inhibitors of slow muscle genes, such as SOX6, HRASLS, and HDAC4, thereby restricting the activation of the slow muscle genes (PubMed:21884692). During muscle regeneration, negatively regulates differentiation of muscle satellite cells through down-regulation of MYOG expression (PubMed:20696153). During kidney development regulates the early stages of metanephros development and ureteric bud formation through regulation of GDNF, SALL1, PAX8 and PAX2 expression (PubMed:17300925). Plays a role in gonad development by regulating both testis determination and size determination. In gonadal sex determination, transactivates ZFPM2 by binding a MEF3 consensus sequence, resulting in SRY up-regulation. In gonadal size determination, transactivates NR5A1 by binding a MEF3 consensus sequence resulting in gonadal precursor cell formation regulation (PubMed:23987514). During olfactory development mediates the specification and patterning of olfactory placode through fibroblast growth factor and BMP4

Target Details

signaling pathways and also regulates epithelial cell proliferation during placode formation (PubMed:19027001). Promotes survival of sensory neurons during early trigeminal gangliogenesis (PubMed:16938278). In the developing dorsal root ganglia, up-regulates SLC12A2 transcription (PubMed:15955062). Regulates early thymus/parathyroid organogenesis through regulation of GCM2 and FOXN1 expression (PubMed:16530750). Forms gustatory papillae during development of the tongue (PubMed:21978088). Also plays a role during embryonic cranial skeleton morphogenesis (PubMed:20515681).
{ECO:0000269|PubMed:10490620, ECO:0000269|PubMed:14966291, ECO:0000269|PubMed:15788460, ECO:0000269|PubMed:15955062, ECO:0000269|PubMed:16530750, ECO:0000269|PubMed:16938278, ECO:0000269|PubMed:17300925, ECO:0000269|PubMed:17592144, ECO:0000269|PubMed:19027001, ECO:0000269|PubMed:19962975, ECO:0000269|PubMed:20515681, ECO:0000269|PubMed:20696153, ECO:0000269|PubMed:21884692, ECO:0000269|PubMed:21978088, ECO:0000269|PubMed:23987514, ECO:0000303|PubMed:10490620}.

Molecular Weight: 83.1 kDa Including tag.

UniProt: [Q61321](#)

Pathways: [Regulation of Muscle Cell Differentiation, 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: Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

Images



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