

Datasheet for ABIN3134033

## NK2 Homeobox 5 Protein (NKX2-5) (AA 1-318) (Strep Tag)



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### Overview

Quantity:	1 mg
Target:	NK2 Homeobox 5 (NKX2-5)
Protein Characteristics:	AA 1-318
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NK2 Homeobox 5 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

### Product Details

Brand:	AlIcE®
Sequence:	<p>MFPSPALTPT PFSVKDILNL EQQQRSLASG DLSARLEATL APASCMLAAF KPEAYSGPEA  AASGLAELRA EMGPAPSPPK CSPAFPAAPT FYPGAYGDPD PAKDPRADKK ELCALQKAVE  LDKAETDGAE RPRARRRRKP RVLFSQAQVY ELERRFKQQR YLSAPERDQL ASVLKLTSTQ  VKIWFQNRRY KCKRQRQDQT LELLGPPPPP ARRIAVPVLV RDGKPCLGDP AAYAPAYGVG  LNAYGYNAYP YPSYGGAACS PGYSAAYP APPAAQPPAA SANSNFVNFG VGDINTVQSP  GMPQGNSGVS TLHGIRAW</p> <p><b>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.</b></p>
Characteristics:	Key Benefits:

## Product Details

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- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

## Target Details

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Target:	NK2 Homeobox 5 (NKX2-5)
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## Target Details

Alternative Name:	Nkx2-5 ( <a href="#">NKX2-5 Products</a> )
Background:	<p>Homeobox protein Nkx-2.5 (Cardiac-specific homeobox) (Homeobox protein CSX) (Homeobox protein NK-2 homolog E),FUNCTION: Transcription factor required for the development of the heart and the spleen (PubMed:9584153, PubMed:16556915, PubMed:19483677, PubMed:22560297). During heart development, acts as a transcriptional activator of NPPA/ANF in cooperation with GATA4 (PubMed:9584153). May cooperate with TBX2 to negatively modulate expression of NPPA/ANF in the atrioventricular canal (PubMed:12023302). Binds to the core DNA motif of NPPA promoter (PubMed:19483677). Together with PBX1, required for spleen development through a mechanism that involves CDKN2B repression (PubMed:22560297). Positively regulates transcription of genes such as COL3A1 and MMP2, resulting in increased pulmonary endothelial fibrosis in response to hypoxia (By similarity). {ECO:0000250 UniProtKB:P52952, ECO:0000269 PubMed:12023302, ECO:0000269 PubMed:16556915, ECO:0000269 PubMed:19483677, ECO:0000269 PubMed:22560297, ECO:0000269 PubMed:9584153}.</p>
Molecular Weight:	34.2 kDa
UniProt:	<a href="#">P42582</a>
Pathways:	<a href="#">Regulation of Muscle Cell Differentiation, Skeletal Muscle Fiber Development</a>

## 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:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> 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.</p> <p>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!</p>
Restrictions:	For Research Use only

## Handling

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Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol <b>Might differ depending on protein.</b>
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months