

Datasheet for ABIN3079180

**DYRK3 Protein (AA 1-588) (Strep Tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	DYRK3
Protein Characteristics:	AA 1-588
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This DYRK3 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

## Product Details

Sequence: MGGTARGPGR KDAGPPGAGL PPQRRRLGDG VYDTFMMIDE TKCPPCSNVL CNPSEPPPPR  
RLNMTTEQFT GDHTQHFLDG GEMKVEQLFQ EFGNRKSNTI QSDGISDSEK CSPTVSQGKS  
SDCLNTVKS N SSSKAPKVVP LTPEQALKQY KHHLTAYEKL EIINYPEIYF VGPNAKKRHG  
VIGGPNNGGY DDADGAYIHV PRDHLAYRYE VLKIIGKGSF GQVARVYDHK LRQYVALKMY  
RNEKRFHRQA AEEIRILEHL KKQDKTGSMN VIHMLESTF RNHVCMAFEL LSIDLYELIK  
KNKFQGFVSQ LVRKFAQSIL QSLDALHKNK IICHDLKPEN ILLKHHGRSS TKVIDFGSSC  
FEYQKLYTYI QSRFYRAPEI ILGSRYSTPI DIWSFGCILA ELLTGQPLFP GEDEGDQLAC  
MMELLGMPPP KLLEQSKRAK YFINSKGIPR YCSVTTQADG RVVLVGGRSR RGKKRGPPGS  
KDWGTALKGC DDYLFIEFLK RCLHWDPSAR LTPAQALRHP WISKSVRPL TTIDKVSQKR  
VVNPASAFQG LGSKLPPVVG IANKLKANLM SETNGSIPLC SVLPKLIS

**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.**

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### 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.

## Product Details

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)
Grade:	Crystallography grade

## Target Details

Target:	DYRK3
Alternative Name:	DYRK3 ( <a href="#">DYRK3 Products</a> )
Background:	<p>Dual specificity tyrosine-phosphorylation-regulated kinase 3 (EC 2.7.12.1) (Regulatory erythroid kinase) (REDK),FUNCTION: Dual-specificity protein kinase that promotes disassembly of several types of membraneless organelles during mitosis, such as stress granules, nuclear speckles and pericentriolar material (PubMed:29973724). Dual-specificity tyrosine-regulated kinases (DYRKs) autophosphorylate a critical tyrosine residue in their activation loop and phosphorylate their substrate on serine and threonine residues (PubMed:9748265, PubMed:29634919). Acts as a central dissolvase of membraneless organelles during the G2-to-M transition, after the nuclear-envelope breakdown: acts by mediating phosphorylation of multiple serine and threonine residues in unstructured domains of proteins, such as SRRM1 and PCM1 (PubMed:29973724). Does not mediate disassembly of all membraneless organelles: disassembly of P-body and nucleolus is not regulated by DYRK3 (PubMed:29973724). Dissolution of membraneless organelles at the onset of mitosis is also required to release mitotic regulators, such as ZNF207, from liquid-unmixed organelles where they are sequestered and keep them dissolved during mitosis (PubMed:29973724). Regulates mTORC1 by mediating the dissolution of stress granules: during stressful conditions, DYRK3 partitions from the cytosol to the stress granule, together with mTORC1 components, which prevents mTORC1 signaling (PubMed:23415227). When stress signals are gone, the kinase activity of DYRK3 is required for the dissolution of stress granule and mTORC1 relocation to the cytosol: acts by mediating the phosphorylation of the mTORC1 inhibitor AKT1S1, allowing full reactivation of mTORC1 signaling (PubMed:23415227). Also acts as a negative regulator of EPO-dependent erythropoiesis: may place an upper limit on red cell production during stress erythropoiesis (PubMed:10779429). Inhibits cell death due to cytokine withdrawal in hematopoietic progenitor cells (PubMed:10779429). Promotes cell survival upon genotoxic stress through phosphorylation of SIRT1: this in turn inhibits p53/TP53 activity and apoptosis</p>

## Target Details

	(PubMed:20167603). {ECO:0000269 PubMed:10779429, ECO:0000269 PubMed:20167603, ECO:0000269 PubMed:23415227, ECO:0000269 PubMed:29634919, ECO:0000269 PubMed:29973724, ECO:0000269 PubMed:9748265}.
Molecular Weight:	65.7 kDa
UniProt:	<a href="#">O43781</a>
Pathways:	<a href="#">Negative Regulation of Hormone Secretion</a> , <a href="#">Regulation of Lipid Metabolism by PPARalpha</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

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