Datasheet for ABIN3092165

LIG4 Protein (AA 1-911) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	LIG4
Protein Characteristics:	AA 1-911
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This LIG4 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MAASQTSQTV ASHVPFADLC STLERIQKSK GRAEKIRHFR EFLDSWRKFH DALHKNHKDV TDSFYPAMRL ILPQLERERM AYGIKETMLA KLYIELLNLP RDGKDALKLL NYRTPTGTHG DAGDFAMIAY FVLKPRCLQK GSLTIQQVND LLDSIASNNS AKRKDLIKKS LLQLITQSSA LEQKWLIRMI IKDLKLGVSQ QTIFSVFHND AAELHNVTTD LEKVCRQLHD PSVGLSDISI TLFSAFKPML AAIADIEHIE KDMKHQSFYI ETKLDGERMQ MHKDGDVYKY FSRNGYNYTD QFGASPTEGS LTPFIHNAFK ADIQICILDG EMMAYNPNTQ TFMQKGTKFD IKRMVEDSDL QTCYCVFDVL MVNNKKLGHE TLRKRYEILS SIFTPIPGRI EIVQKTQAHT KNEVIDALNE AIDKREEGIM VKQPLSIYKP DKRGEGWLKI KPEYVSGLMD ELDILIVGGY WGKGSRGGMM SHFLCAVAEK PPPGEKPSVF HTLSRVGSGC TMKELYDLGL KLAKYWKPFH RKAPPSSILC GTEKPEVYIE PCNSVIVQIK AAEIVPSDMY KTGCTLRFPR IEKIRDDKEW HECMTLDDLE QLRGKASGKL ASKHLYIGGD DEPQEKKRKA APKMKKVIGI IEHLKAPNLT NVNKISNIFE DVEFCVMSGT DSQPKPDLEN RIAEFGGYIV QNPGPDTYCV IAGSENIRVK NIILSNKHDV

VKPAWLLECF KTKSFVPWQP RFMIHMCPST KEHFAREYDC YGDSYFIDTD LNQLKEVFSG IKNSNEQTPE EMASLIADLE YRYSWDCSPL SMFRRHTVYL DSYAVINDLS TKNEGTRLAI KALELRFHGA KVVSCLAEGV SHVIIGEDHS RVADFKAFRR TFKRKFKILK ESWVTDSIDK CELQEENQYL I

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:

- 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.

Product Details

	• 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)
Grade:	Crystallography grade

Target Details

Target:	LIG4
Alternative Name:	LIG4 (LIG4 Products)
Background:	DNA ligase 4 (EC 6.5.1.1) (DNA ligase IV) (Polydeoxyribonucleotide synthase [ATP] 4),FUNCTION: DNA ligase involved in DNA non-homologous end joining (NHEJ), required for double-strand break (DSB) repair and V(D)J recombination (PubMed:8798671, PubMed:9242410, PubMed:9809069, PubMed:12517771, PubMed:17290226, PubMed:23523427, PubMed:29980672, PubMed:33586762). Catalyzes the NHEJ ligation step of the broken DNA during DSB repair by resealing the DNA breaks after the gap filling is completed (PubMed:9242410, PubMed:9809069, PubMed:12517771, PubMed:17290226). Joins single-strand breaks in a double-stranded polydeoxynucleotide in an ATP-dependent reaction (PubMed:9242410, PubMed:9809069, PubMed:12517771, PubMed:17290226). LIG4 is mechanistically flexible: it can ligate nicks as well as compatible DNA overhangs alone, while in the presence of XRCC4, it can ligate ends with 2-nucleotides (nt) microhomology and 1-nt gaps (PubMed:17290226). Forms a subcomplex with XRCC4, the LIG4-XRCC4 subcomplex is responsible for the NHEJ ligation step and XRCC4 enhances the joining activity of LIG4 (PubMed:9242410, PubMed:9809069). Binding of the LIG4-XRCC4 complex to DNA ends is dependent on the assembly of the DNA-dependent protein kinase complex DNA-PK to these DNA ends (PubMed:10854421). LIG4 regulates nuclear localization of XRCC4 (PubMed:24984242). {ECO:0000269|PubMed:10854421, ECO:0000269|PubMed:12517771,

Target Details

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Molecular Weight:	104.0 kDa
UniProt:	P49917
Pathways:	DNA Damage Repair, Production of Molecular Mediator of Immune Response

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 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

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.

Handling

Expiry Date:	Unlimited (if stored properly)

Images

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