

Datasheet for ABIN3106618

OPN3 Protein (AA 1-402) (Strep Tag)**1** Image[Go to Product page](#)

Overview

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|-------------------------------|---|
| Quantity: | 1 mg |
| Target: | OPN3 |
| Protein Characteristics: | AA 1-402 |
| Origin: | Human |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This OPN3 protein is labelled with Strep Tag. |
| Application: | ELISA, SDS-PAGE (SDS), Western Blotting (WB) |

Product Details

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| Sequence: | <p>MYSGNRSGGH GYWDGGGAAG AEGPAPAGTL SPAPLFSPGT YERLALLGS IGLLGVGNNL LVLVLYYKFQ RLRTPTHLLL VNISLSDLLV SLFGVTFTFV SCLRNGWVWD TVGCVWDGFS GSLFGIVSIA TLTVLAYERY IRVVHARVIN FSWAWRAITY IWLYSLAWAG APLLGWNRYI LDVHGLGCTV DWKSKDANDS SFVLFLFLGC LVPPLGVIAH CYGHILYSIR MLRCVEDLQT IQVIKILKYE KKLAKMCFLM IFTFLVCWMP YIVICFLVN GHGHLVTPTI SIVSYLFAKS NTVYNPVIYV FMIRKFRRSL LQLLCLRLLR CQRPALDPA AGSEMQRPI VMSQKDGDRP KKKVTFNSSS IIFIITSDS LSVDDSDKTN GSKVDVIQVR PL</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> |
| 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.

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.

Product Details

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| 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

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| Target: | OPN3 |
| Alternative Name: | OPN3 (OPN3 Products) |
| Background: | <p>Opsin-3 (Encephalopsin) (Panopsin),FUNCTION: G-protein coupled receptor which selectively activates G proteins via ultraviolet A (UVA) light-mediated activation in the skin (PubMed:28842328, PubMed:31380578, PubMed:31097585). Binds both 11-cis retinal and all-trans retinal (PubMed:31097585). Regulates melanogenesis in melanocytes via inhibition of alpha-MSH-induced MC1R-mediated cAMP signaling, modulation of calcium flux, regulation of CAMK2 phosphorylation, and subsequently phosphorylation of CREB, p38, ERK and MITF in response to blue light (PubMed:28842328, PubMed:31097585). Plays a role in melanocyte survival through regulation of intracellular calcium levels and subsequent BCL2/RAF1 signaling (PubMed:31730232). Additionally regulates apoptosis via cytochrome c release and subsequent activation of the caspase cascade (PubMed:31730232). Required for TYR and DCT blue light-induced complex formation in melanocytes (PubMed:28842328). Involved in keratinocyte differentiation in response to blue-light (PubMed:30168605). Required for the UVA-mediated induction of calcium and mitogen-activated protein kinase signaling resulting in the expression of MMP1, MMP2, MMP3, MMP9 and TIMP1 in dermal fibroblasts (PubMed:31380578). Plays a role in light-mediated glucose uptake, mitochondrial respiration and fatty acid metabolism in brown adipocyte tissues (By similarity). May be involved in photorelaxation of airway smooth muscle cells, via blue-light dependent GPCR signaling pathways (By similarity). {ECO:0000250 UniProtKB:Q9WUK7, ECO:0000269 PubMed:28842328, ECO:0000269 PubMed:30168605, ECO:0000269 PubMed:31097585, ECO:0000269 PubMed:31380578, ECO:0000269 PubMed:31730232}.</p> |
| Molecular Weight: | 44.9 kDa |
| UniProt: | Q9H1Y3 |

Application Details

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| 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 |
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Application Details

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| | 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. 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