

Datasheet for ABIN3135486

## NFE2L1 Protein (AA 1-741) (Strep Tag)



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### Overview

Quantity:	250 µg
Target:	NFE2L1
Protein Characteristics:	AA 1-741
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NFE2L1 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

### Product Details

Brand:	AliCE®
Sequence:	<p>             MLSLKLYLTE GLLQFTILLS LIGVRVDVDT YLTSQLPPLR EIILGPSSAY TQTQFHNLRN              TLDGYGIHPK SIDLDNYFTA RRLLSQVRAL DRFQVPTTEV NAWLVHRDPE GSVSGSQPNS              GLALESSSGL QDVTGPDNGV RESETEQGFG EDLEDLGAVA PPVSGDLTKE DIDLIDILWR              QDIDLGAGRE VFDYSHRQKE QDVDEKELQDG REREDTWSGE GAEALARDLL VDGETGESFP              AQFPADVSSI PEAVPSESES PALQNSLLSP LLTGTESPFD LEQQWQDLMS IMEMQAMEVN              TSASEILYNA PPGDPLSTNY SLAPNTPINQ NVSLHQASLG GCSQDFSLFS PEVESLPVAS              SSTLLPLVPS NSTSLNSTFG STNLAGLFFP SQLNGTANDT SGPELPDPLG GLLDEAMLDE              ISLMDLAIEE GFNPVQASQL EEEFSDSGL SLDSSHSPSS LSSSEGSSSS SSSSSSSSAS              SSASSSFSEE GAVGYSSDSE TLDLEEAEGA VGYQPEYSKF CRMSYQDPSQ LSCLPYLEHV              GHNHTYNMAP SALDSADLPP PSTLKKGSKE KQADFLDKQM SRDEHRARAM KIPFTNDKII              NLPVEEFNEL LSKYQLSEAQ LSLIRDIRRR GKNKMAAQNC RKRKLDTILN LERDVEDLQR           </p>

DKARLLREKV EFLRSLRQMK QKVQSLYQEV FGRLRDEHGR PYSPSQYALQ YAGDGSVLLI  
PRTMADQQAR RQERKPKDRR K

**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 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®).

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## Product Details

Purity: > 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Grade: custom-made

## Target Details

Target: NFE2L1

Alternative Name: Nfe2l1 ([NFE2L1 Products](#))

Background: Endoplasmic reticulum membrane sensor NFE2L1 (Locus control region-factor 1) (LCR-F1) (Nuclear factor erythroid 2-related factor 1) (NF-E2-related factor 1) (NFE2-related factor 1) (Nuclear factor, erythroid derived 2, like 1) [Cleaved into: Transcription factor NRF1],FUNCTION: [Endoplasmic reticulum membrane sensor NFE2L1]: Endoplasmic reticulum membrane sensor that translocates into the nucleus in response to various stresses to act as a transcription factor (PubMed:20385086, PubMed:21536885, PubMed:23816881, PubMed:29149604). Constitutes a precursor of the transcription factor NRF1. Able to detect various cellular stresses, such as cholesterol excess, oxidative stress or proteasome inhibition (PubMed:20385086, PubMed:21536885, PubMed:23816881, PubMed:29149604). In response to stress, it is released from the endoplasmic reticulum membrane following cleavage by the protease DDIT2 and translocates into the nucleus to form the transcription factor NRF1 (PubMed:29149604). Acts as a key sensor of cholesterol excess: in excess cholesterol conditions, the endoplasmic reticulum membrane form of the protein directly binds cholesterol via its CRAC motif, preventing cleavage and release of the transcription factor NRF1, thereby allowing expression of genes promoting cholesterol removal, such as CD36 (PubMed:29149604). Involved in proteasome homeostasis: in response to proteasome inhibition, it is released from the endoplasmic reticulum membrane, translocates to the nucleus and activates expression of genes encoding proteasome subunits (PubMed:20385086, PubMed:21536885, PubMed:23816881). {ECO:0000269|PubMed:20385086, ECO:0000269|PubMed:21536885, ECO:0000269|PubMed:23816881, ECO:0000269|PubMed:29149604}., FUNCTION: [Transcription factor NRF1]: CNC-type bZIP family transcription factor that translocates to the nucleus and regulates expression of target genes in response to various stresses (PubMed:10601325, PubMed:11342101, PubMed:23144760, PubMed:16872277, PubMed:21911472, PubMed:23816881, PubMed:29149604). Heterodimerizes with small-Maf proteins (MAFF, MAFK or MAFK) and binds DNA motifs including the antioxidant response elements (AREs), which regulate expression of genes involved in oxidative stress response (PubMed:12808106, PubMed:15738389, PubMed:23144760, PubMed:16872277, PubMed:21911472,

PubMed:23816881). Activates or represses expression of target genes, depending on the context (PubMed:12808106, PubMed:15738389, PubMed:23144760, PubMed:16872277, PubMed:21911472, PubMed:23816881). Plays a key role in cholesterol homeostasis by acting as a sensor of cholesterol excess: in low cholesterol conditions, translocates into the nucleus and represses expression of genes involved in defense against cholesterol excess, such as CD36 (PubMed:29149604). In excess cholesterol conditions, the endoplasmic reticulum membrane form of the protein directly binds cholesterol via its CRAC motif, preventing cleavage and release of the transcription factor NRF1, thereby allowing expression of genes promoting cholesterol removal (PubMed:29149604). Critical for redox balance in response to oxidative stress: acts by binding the AREs motifs on promoters and mediating activation of oxidative stress response genes, such as GCLC, GCLM, GSS, MT1 and MT2 (PubMed:10601325, PubMed:11342101, PubMed:12968018, PubMed:15738389, PubMed:18826952). Plays an essential role during fetal liver hematopoiesis: probably has a protective function against oxidative stress and is involved in lipid homeostasis in the liver (PubMed:9501099, PubMed:12808106, PubMed:15738389, PubMed:18826952, PubMed:22586274). Involved in proteasome homeostasis: in response to proteasome inhibition, mediates the 'bounce-back' of proteasome subunits by translocating into the nucleus and activating expression of genes encoding proteasome subunits (PubMed:20385086, PubMed:21536885, PubMed:23816881). Also involved in regulating glucose flux (PubMed:25041126). Together with CEBPB, represses expression of DSPP during odontoblast differentiation (By similarity). In response to ascorbic acid induction, activates expression of SP7/Osterix in osteoblasts (PubMed:17510056). {ECO:0000250|UniProtKB:Q14494, ECO:0000269|PubMed:10601325, ECO:0000269|PubMed:11342101, ECO:0000269|PubMed:12808106, ECO:0000269|PubMed:12968018, ECO:0000269|PubMed:15738389, ECO:0000269|PubMed:16872277, ECO:0000269|PubMed:17510056, ECO:0000269|PubMed:18826952, ECO:0000269|PubMed:20385086, ECO:0000269|PubMed:21536885, ECO:0000269|PubMed:21911472, ECO:0000269|PubMed:22586274, ECO:0000269|PubMed:23144760, ECO:0000269|PubMed:23816881, ECO:0000269|PubMed:25041126, ECO:0000269|PubMed:29149604, ECO:0000269|PubMed:9501099}., FUNCTION: [Isoform 2]: Transcription factor that binds the antioxidant response elements (ARE) consensus sequence on promoters and activates their expression. {ECO:0000269|PubMed:23144760, ECO:0000269|PubMed:9580677}., FUNCTION: [Isoform 3]: Transcription factor that binds the extended kappa 3 site of the TNF-alpha promoter after Fc gamma RIII stimulation and participates in the induction of this cytokine (PubMed:9580677). {ECO:0000269|PubMed:9580677}.

## Target Details

Molecular Weight: 81.6 kDa

UniProt: [Q61985](#)

## 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.  
Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: 12 months