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# SUPT5H Protein (AA 1-1087) (Strep Tag)



### Overview

| Quantity:                     | 1 mg  |
|-------------------------------|---|
| Target:                       | SUPT5H  |
| Protein Characteristics:      | AA 1-1087                                       |
| Origin:                       | Human   |
| Source:                       | Tobacco (Nicotiana tabacum)                     |
| Protein Type:                 | Recombinant                                     |
| Purification tag / Conjugate: | This SUPT5H protein is labelled with Strep Tag. |
| Application:                  | ELISA, Western Blotting (WB), SDS-PAGE (SDS)    |

# **Product Details**

Sequence:

MSDSEDSNFS EEEDSERSSD GEEAEVDEER RSAAGSEKEE EPEDEEEEEE EEEYDEEEEE
EDDDRPPKKP RHGGFILDEA DVDDEYEDED QWEDGAEDIL EKEEIEASNI DNVVLDEDRS
GARRLQNLWR DQREEELGEY YMKKYAKSSV GETVYGGSDE LSDDITQQQL LPGVKDPNLW
TVKCKIGEER ATAISLMRKF IAYQFTDTPL QIKSVVAPEH VKGYIYVEAY KQTHVKQAIE
GVGNLRLGYW NQQMVPIKEM TDVLKVVKEV ANLKPKSWVR LKRGIYKDDI AQVDYVEPSQ
NTISLKMIPR IDYDRIKARM SLKDWFAKRK KFKRPPQRLF DAEKIRSLGG DVASDGDFLI
FEGNRYSRKG FLFKSFAMSA VITEGVKPTL SELEKFEDQP EGIDLEVVTE STGKEREHNF
QPGDNVEVCE GELINLQGKI LSVDGNKITI MPKHEDLKDM LEFPAQELRK YFKMGDHVKV
IAGRFEGDTG LIVRVEENFV ILFSDLTMHE LKVLPRDLQL CSETASGVDV GGQHEWGELV
QLDPQTVGVI VRLERETFQV LNMYGKVVTV RHQAVTRKKD NRFAVALDSE QNNIHVKDIV
KVIDGPHSGR EGEIRHLFRS FAFLHCKKLV ENGGMFVCKT RHLVLAGGSK PRDVTNFTVG

IGVVKDATES TARVELHSTC QTISVDRQRL TTVGSRRPGG MTSTYGRTPM YGSQTPMYGS
GSRTPMYGSQ TPLQDGSRTP HYGSQTPLHD GSRTPAQSGA WDPNNPNTPS RAEEEYEYAF
DDEPTPSPQA YGGTPNPQTP GYPDPSSPQV NPQYNPQTPG TPAMYNTDQF SPYAAPSPQG
SYQPSPSPQS YHQVAPSPAG YQNTHSPASY HPTPSPMAYQ ASPSPSPVGY SPMTPGAPSP
GGYNPHTPGS GIEQNSSDWV TTDIQVKVRD TYLDTQVVGQ TGVIRSVTGG MCSVYLKDSE
KVVSISSEHL EPITPTKNNK VKVILGEDRE ATGVLLSIDG EDGIVRMDLD EQLKILNLRF LGKLLEA

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 posttranslational 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.

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)

# Target Details

Target:

SUPT5H

Alternative Name:

SUPT5H (SUPT5H Products)

## Background:

Transcription elongation factor SPT5 (hSPT5) (DRB sensitivity-inducing factor 160 kDa subunit) (DSIF p160) (DRB sensitivity-inducing factor large subunit) (DSIF large subunit) (Tatcotransactivator 1 protein) (Tat-CT1 protein), FUNCTION: Component of the DRB sensitivityinducing factor complex (DSIF complex), which regulates mRNA processing and transcription elongation by RNA polymerase II. DSIF positively regulates mRNA capping by stimulating the mRNA guanylyltransferase activity of RNGTT/CAP1A. DSIF also acts cooperatively with the negative elongation factor complex (NELF complex) to enhance transcriptional pausing at sites proximal to the promoter. Transcriptional pausing may facilitate the assembly of an elongation competent RNA polymerase II complex. DSIF and NELF promote pausing by inhibition of the transcription elongation factor TFIIS/S-II. TFIIS/S-II binds to RNA polymerase II at transcription pause sites and stimulates the weak intrinsic nuclease activity of the enzyme. Cleavage of blocked transcripts by RNA polymerase II promotes the resumption of transcription from the new 3' terminus and may allow repeated attempts at transcription through natural pause sites. DSIF can also positively regulate transcriptional elongation and is required for the efficient activation of transcriptional elongation by the HIV-1 nuclear transcriptional activator, Tat. DSIF acts to suppress transcriptional pausing in transcripts derived from the HIV-1 LTR and blocks premature release of HIV-1 transcripts at terminator sequences.

{ECO:0000269|PubMed:10075709, ECO:0000269|PubMed:10199401, ECO:0000269|PubMed:10393184, ECO:0000269|PubMed:10421630, ECO:0000269|PubMed:10454543, ECO:0000269|PubMed:10757782, ECO:0000269|PubMed:10912001, ECO:0000269|PubMed:11112772, ECO:0000269|PubMed:11553615, ECO:0000269|PubMed:11809800, ECO:0000269|PubMed:12653964, ECO:0000269|PubMed:12718890, ECO:0000269|PubMed:14701750, ECO:0000269|PubMed:15136722, ECO:0000269|PubMed:15380072, ECO:0000269|PubMed:16214896, ECO:0000269|PubMed:9450929, ECO:0000269|PubMed:9514752, ECO:0000269|PubMed:9857195}. Molecular Weight: 121.0 kDa UniProt: 000267 **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

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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

| Handling Advice: | Avoid repeated freeze-thaw cycles. |
|------------------|------------------------------------|
| Storage:         | -80 °C                             |
| Storage Comment: | Store at -80°C.                    |
| Expiry Date:     | Unlimited (if stored properly)     |