

1. Poišči v UniProt-u ID ribosomalnega proteina ubikvitina pri ličinki nočnega metulja (lat. *Manduca sexta*) in dolžino ter molekulsko maso. P29504,

Function

Names & Taxonomy

Subcellular Location

Phenotypes & Variants

PTM/Processing

Expression


Interaction

Structure

Family & Domains

Sequence

Similar Proteins

 **P29504 · RS27A_MANSE**

Proteinⁱ

Statusⁱ

Organismⁱ

Ubiquitin-ribosomal protein eS31 fusion protein

UniProtKB reviewed (Swiss-Prot)

Manduca sexta (Tobacco hawkmoth) (Tobacco hornworm)


Amino acids

Protein existenceⁱ

Annotation scoreⁱ

155 (go to sequence)

Evidence at transcript level

 4.5

Entry

Variant viewer

Feature viewer

Genomic coordinates

Publications

External links

History

Tools


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Functionⁱ

Ubiquitin
Exists either covalently attached to another protein, or free (unanchored). When covalently bound, it is conjugated to target proteins via an isopeptide bond either as a monomer (monoubiquitin), a polymer linked via different Lys residues of the ubiquitin (polyubiquitin chains) or a linear polymer linked via the initiator Met of the ubiquitin (linear polyubiquitin chains). Polyubiquitin chains, when attached to a target protein, have different functions depending on the Lys residue of the ubiquitin that is linked: Lys-48-linked is involved in protein degradation via the proteasome. Linear polymer chains formed via attachment by the initiator Met lead to cell signalling. Ubiquitin is usually conjugated to Lys residues of target proteins, however, in rare cases, conjugation to Cys or Ser residues has been observed. When polyubiquitin is free (unanchored-polyubiquitin), it also has distinct roles, such as in activation of protein kinases, and in signaling (By similarity). 

Small ribosomal subunit protein eS31
Component of the 40S subunit of the ribosome.

Dolžina AK zaporedja: 155, Molekulska masa: 17847.86

ProtParam - Results

User-provided sequence:

```
10      20      30      40      50      60
MQIFVKLTG KTITLEVEPS DTIENVKAKI QDKEGIPPDQ QRLIFAGKQL EDGRTLSDYN
70      80      90      100     110     120
IQKESTLHLV LRLRGGAKKR KKKNYSTPKK IKHKKKKVKL AVLRFYKVDE NGKIHLRRE
130     140     150
CTGEQCGAGV FMAVMEDRHY CGKCHSTMVF KDDDK
```

[\[Documentation / Reference\]](#)

Number of amino acids: 155

Molecular weight: 17847.86

2. Kolikšna je izoelektrična točka tega proteina in kakšen je indeks nestabilnosti. Določite število ostankov aminokisline Asparagin (N) v danem zaporedju ter izračunajte, kolikšen odstotek predstavljajo med vsemi aminokislinami v tem proteinu?
pI: 9.76

ProtParam - Results

User-provided sequence:

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130     140     150
CTGEQCGAGV FMAVMEDRHY CGKCHSTMVF KDDDK
```

[\[Documentation / Reference\]](#)

Number of amino acids: 155

Molecular weight: 17847.86

Theoretical pI: 9.76

Instability index: 38.76

Instability index:

The instability index (II) is computed to be 38.76
This classifies the protein as stable.

Št. asparginov v zaporedju: 4

Amino acid composition:

[CSV format](#)

Ala (A)	6	3.9%
Arg (R)	10	6.5%
Asn (N)	4	2.6%
Asp (D)	10	6.5%
Cys (C)	4	2.6%
Gln (Q)	7	4.5%
Glu (E)	10	6.5%
Gly (G)	11	7.1%
His (H)	5	3.2%
Ile (I)	9	5.8%
Leu (L)	12	7.7%
Lys (K)	25	16.1%
Met (M)	4	2.6%
Phe (F)	5	3.2%
Pro (P)	4	2.6%
Ser (S)	5	3.2%
Thr (T)	10	6.5%
Trp (W)	0	0.0%
Tyr (Y)	4	2.6%
Val (V)	10	6.5%
Pyl (O)	0	0.0%
Sec (U)	0	0.0%

Delež aspargina v zaporedju:

$$\text{Delež} = \left(\frac{\text{št. (N)}}{\text{skupna dolžina}} \right) * 100\%$$

Delež = 2,58%

3. Ali ima ribosomalnega proteina ubikvitina kakšno znano funkcionalno domeno. Če jo/jih ima zapiši katere so?

Protein ima Ubikvitinsko domeno, ribosomarno domeno ter za Zn ribosomska vezavna domena.

▼ Domains



4. Ali ima človek homolog proteina eS31, ki je pri ličinki nočnega metulja izražen kot fuzijski protein z ubikvitinom, in če da, ali sta si aminokislinska zaporedja popolnoma podobna? Zapiši ID PDB tega proteina in kako je bil ta protein eksperimentalno določen?

Človeški homolog je ribosomalni protein S27A in aminokislinska zaporedja sta si popolnoma enaka (100% ujemanje v BLAST)

Sequences producing significant alignments

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[Multiple alignment](#)

[MSA Viewer](#)

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. Ident	Acc. Len	Accession
<input checked="" type="checkbox"/> Chain Sf, UBIQUITIN-40S RIBOSOMAL PROTEIN S27A [Homo sapiens]	Homo sapiens	241	241	100%	4e-83	86.54%	156	4UG0_Sf
<input checked="" type="checkbox"/> Chain f1, Ribosomal protein S27a [Homo sapiens]	Homo sapiens	237	237	100%	1e-81	85.90%	156	5VYC_f1
<input checked="" type="checkbox"/> Chain k, Ubiquitin [Homo sapiens]	Homo sapiens	236	236	100%	3e-81	85.99%	157	8PJ1_k

ID PDB: 4UG0_Sf, protein je bil eksperimentalno določen z elektronsko mikroskopijo.

Chain Sf, UBIQUITIN-40S RIBOSOMAL PROTEIN S27A

PDB: 4UG0_Sf


[Identical Proteins](#) [FASTA](#) [Graphics](#)

[Go to:](#) ☐

LOCUS 4UG0_Sf 156 aa linear PRI 01-MAR-2021
 DEFINITION Chain Sf, UBIQUITIN-40S RIBOSOMAL PROTEIN S27A.
 ACCESSION 4UG0_Sf
 VERSION 4UG0_Sf
 DBSOURCE pdb: molecule 4UG0, chain Sf, release Dec 18, 2019;
 deposition: Mar 20, 2015;
 class: RIBOSOME;
 source: Mmdb_id: [170918](#), Pdb_id 1: 4UG0;
 Exp. method: Electron Microscopy.

5. Koliko preglednih člankov je objavljeno na to temo proteina eS31 in kdaj oz. katerega leta je bil objavljen prvi članek?

3 results



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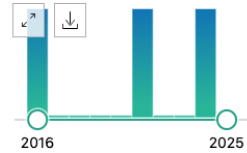


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1

Cite

Dhifi W, Bellili S, Jazi S, Bahloul N, Mnif W.

Medicines (Basel). 2016 Sep 22;3(4):25. doi: 10.3390/medicines3040025.

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