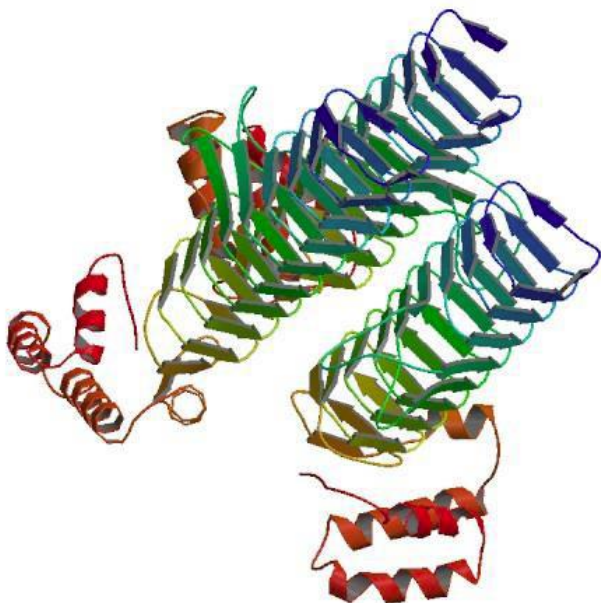


Εργασία Βιοπληροφορικής  
Υπεύθυνη Καθηγήτρια:  
Χολή-Παπαδοπούλου Θεοδώρα

Όνοματεπώνυμο: Κακαλιού Άρτεμις AEM 8311  
Κούτσου Κατερίνα AEM 8323

Πρωτεΐνη: *UDP N-ACETYLGLUCOSAMINE ACYLTRANSFERASE*  
Κωδικός πρωτεΐνης στην PDB: *ILXA*



#### FASTA:

```
>sp|P0A722|LPXA_ECOLI Acyl-[acyl-carrier-protein]--UDP-N-acetylglucosamine O-acyltransferase OS=Escherichia coli  
(strain K12) GN=lpxA PE=1 SV=1  
MIDKSAFVHPTAIVEEGASIGANAHIGPFCIVGPHVEIGE GTVLKSHV VVNGHTKIGRDN  
EIYQFASIGE VNQDLKYAGE PTRVEIGDRN RIRE SVTIHR GTVQGGGLTK VGSDNLLMIN  
AHIAHDCTVGNRCILANNATLAGHVSVD DFAIIGGMTAVHQFCIIGA HVMVGGCSGVAQD  
VPPYVIAQGNHATPFGVNIEGLKRRGFSREAITAIRNAYKLIYRSGKTLDEVKPEIAELA  
ETYPEVKAFTDFFARSTRGLIR
```

#### ProtParam:

#### User-provided sequence:

```
10 20 30 40 50 60 MIDKSAFVHP TAIVEEGASI GANAHIGPFC  
IVGPHVEIGE GTVLKSHV VV NGHTKIGRDN 70 80 90 100 110 120  
EIYQFASIGE VNQDLKYAGE PTRVEIGDRN RIRE SVTIHR GTVQGGGLTK VGSDNLLMIN 130  
140 150 160 170 180 AHIAHDCTVGNRCILANNATLAGHVSVD DFAIIGGMTAVH  
QFCIIGA HVMVGGCSGVAQD 190 200 210 220 230 240  
VPPYVIAQGN HATPFGVNIE GLKRRGFSREAITAIRNAYK LIYRSGKTLDEVKPEIAELA 250 260  
ETYPEVKAFT DFFARSTRGL IR
```

**Number of amino acids:** 262

**Molecular weight:** 28080.0

**Theoretical pI:** 6.63

**Amino acid composition:**

Ala (A) 25 9.5%  
Arg (R) 15 5.7%  
Asn (N) 13 5.0%  
Asp (D) 11 4.2%  
Cys (C) 5 1.9%  
Gln (Q) 6 2.3%  
Glu (E) 16 6.1%  
Gly (G) 30 11.5%  
His (H) 12 4.6%  
Ile (I) 26 9.9%  
Leu (L) 12 4.6%  
Lys (K) 10 3.8%  
Met (M) 4 1.5%  
Phe (F) 10 3.8%  
Pro (P) 9 3.4%  
Ser (S) 11 4.2%  
Thr (T) 16 6.1%  
Trp (W) 0 0.0%  
Tyr (Y) 6 2.3%  
Val (V) 25 9.5%  
Pyl (O) 0 0.0%  
Sec (U) 0 0.0%  
(B) 0 0.0%  
(Z) 0 0.0%  
(X) 0 0.0%

**Total number of negatively charged residues (Asp + Glu):** 27

**Total number of positively charged residues (Arg + Lys):** 25

**Atomic composition:**

Carbon C	1237
Hydrogen H	1972
Nitrogen N	360
Oxygen O	369
Sulfur S	9

**Formula:** C<sub>1237</sub>H<sub>1972</sub>N<sub>360</sub>O<sub>369</sub>S<sub>9</sub>

**Total number of atoms:** 3947

**Extinction coefficients:**

This protein does not contain any Trp residues. Experience shows that this could result in more than 10% error in the computed extinction coefficient.

Extinction coefficients are in units of  $M^{-1} \text{ cm}^{-1}$ , at 280 nm measured in water.

Ext. coefficient 9190  
Abs 0.1% (=1 g/l) 0.327, assuming all pairs of Cys residues form cystines

Ext. coefficient 8940  
Abs 0.1% (=1 g/l) 0.318, assuming all Cys residues are reduced

**Estimated half-life:**

The N-terminal of the sequence considered is M (Met).

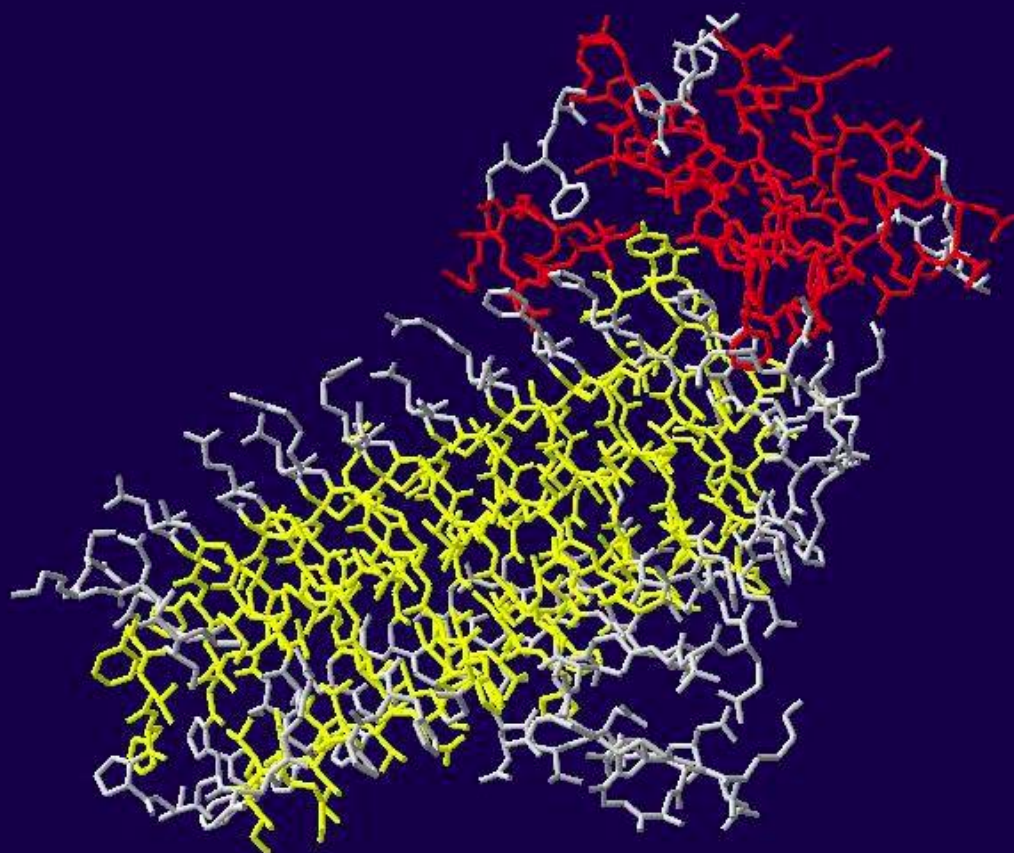
The estimated half-life is: 30 hours (mammalian reticulocytes, in vitro).  
>20 hours (yeast, in vivo).  
>10 hours (Escherichia coli, in vivo).

**Instability index:**

The instability index (II) is computed to be 27.44  
This classifies the protein as stable.

**Aliphatic index:** 93.78

**Grand average of hydropathicity (GRAVY):** 0.002





Από το παραπάνω διάγραμμα προκύπτει ότι εκτός των επιτρεπτών ορίων κινήσεων, είναι τα ακόλουθα αμινοξέα (χρωματίζονται με πράσινο χρώμα):

GLY 17 GLY 87 GLY 189  
GLY 52 GLY 106 HIS 191  
GLY 57 GLY 112 GLY 196  
GLY 69 GLY 130 GLY 206  
GLY 79 GLY 173 GLY 259

