

cDNA encoding the human homologue of rat ribosomal protein L35a

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The ribosomal protein L35a was found to bind to both initiator and elongator tRNAs (1). This is consistent with the proposed arrangement of the protein deduced from cross-linking experiments (2). In this report we describe the cDNA and the deduced protein sequence of the human L35a gene. By screening a human HeLa cDNA library (3) for Ubiquitin-Carrier-Enzymes, we fortuitously isolated the following clone that encodes the whole L35a protein. This clone is closely related to the rat L35a cDNA sequence (4) and a sequence encoding the *Xenopus laevis* ribosomal protein L32 (5). They exhibit 91% and 78% identity on DNA level, respectively. The exchanged nucleotides and amino acids are shown in the picture below. The pyrimidine rich sequence typical for ribosomal proteins and the possible polyadenylation site are underlined.

REFERENCES

1. Ulbrich,N., Wool,P.G., Ackerman,E. and Sigler,P.B. (1980) *J. Biol. Chem.* **255**, 7010–7016.
2. Uchiumi,T., Kukuchi,M., Terao,K. and Ogata,K. (1985) *J. Biol. Chem.* **260**, 5675–5682.
3. Schneider,R., Kühne,Ch., Auer,B., Herzog,H., Burtscher,H., Klocker,H., Hirsch-Kauffman,M., Wintersberger,U. and Schweiger,M. (1987) *Eur. J. Cell. Biol.* **44**, 302–307.
4. Tanaka,T., Wakasugi,K., Kuwano,Y., Ishikawa,K. and Ogata,K. (1986) *Eur. J. Biochem.* **154**, 523–527.
5. Amaldi,F., Beccari,E., Bozzoni,I., Luo,Z.-X. and Pierandrei-Amaldi,P. (1982) *Gene* **17**, 311–316.

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          -62                                                                -1
human L35a   CTTCTCTTACCGCCATCTTGGCTCCTGTGGAGGCCTGCTGGAACGGACTTCTAAAAGGAACT
rat L35a                                                                     .
                                                                           75
 M  S  G  R  L  W  S  K  A  I  F  A  G  Y  K  R  G  L  R  N  Q  R  E  H  T
ATGTCTGGAAGGCTGTGGTCCAAGGCCATTTTTGCTGGCTATAAGCGGGGTCTCCGGAACCAAAGGGAGCACACA
...................G.....................C.....A..C.............A........G
                   Cys
                                                                          150
 A  L  L  K  I  E  G  V  Y  A  R  D  E  T  E  F  Y  L  G  K  R  C  A  Y  V
GCTCTTCTTAAAATTGAAGGTGTTTACGCCCGAGATGAAACAGAATTCTATTTGGGCAAGAGATGCGCTTATGTA
.........................T..............T..G.....C..A........G..T........G
xenopus L32                                .........T..A..A.....T..C..C...
                                                     Phe
                                                                          225
 Y  K  A  K  N  N  T  V  T  P  G  G  K  P  N  K  T  R  V  I  W  G  K  V  T
TATAAAGCAAAGAACAACACAGTCACTCCTGGCGGCAAACCAAACAAAACCAGAGTCATCTGGGGAAAAGTAACT
..C........A.....T.....G........A.........................G.................
..C........A..T........G....A...T..A..G..C...CG...TC.T..G...........G..G..C
                        His                 Arg
                                                                          300
 R  A  H  G  N  S  G  M  V  L  A  K  F  R  S  N  L  P  A  K  A  I  G  H  R
CGGGCCCATGGAAACAGTGGCATGGTTCTTGCCAAATTCCGAAGCAATCTTCCTGCTAAGGCCATTGGACACAGA
.............................G..................C.........A.................
..A..T.....................C.G.A.T..G....ACTCT..C..C..A.....A........G......
                        ArgThr      His

 I  R  V  M  L  Y  P  S  R  I  *                                        390
ATCCGAGTGATGCTGTACCCCTCAAGGATTTAAACTAACGAAAAATCAATAAATAATTGTGGATTTGT(A)22
.....T..............A..CC.............T.G.G.G.A
.....T........T.....A........C....TGT.AAG....AAT.A.T.G..ACA.TCTGG
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Human ribosomal protein L35a cDNA sequence.

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