

## Structure of the amino-terminal end of mammalian elongation factor Tu

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Mixed sequence oligonucleotide probes complementary for peptides Thr-Ile-Glu-Lys-Phe-Glu and Asp-Tyr-Val-Lys-Asn-Met-Ile which are located in the amino-terminal region of eEF-Tu (1,2,3) were used to obtain reverse transcripts from murine and human poly(A)<sup>+</sup> mRNA. Reverse transcription products were separated on polyacrylamide gels and sequenced. Both sequences contain an open reading frame of 282 nucleotides which code for the same sequence of ninety-four amino acids including the start methionine (ATG) codon. A comparison of this amino acid sequence with those reported for yeast and *Artemia* eEF-Tu indicated only three differences between the brine shrimp and mammals and only seven between yeast and mammals (see Fig. 1).

MOUSE	TCGCTTCGGTTTTCTCGTCGACGCGGTGTTGTGAAACCACCGCTAATTCAAAGCAAAAA	M	1
HUMAN	CGCGTTCGCGGAACACGCGTGTGTCGCAACTCCCTAAAGCCAAAAA (ATG)		62
	G K E K T* H I N I* V V I G H V D S G K S T		22
MOUSE	GGAAAGGAAAAAGACTCAACATCAACATCTCGTAAATCGGACACGTAGATTCGGCAAATCCACC		125
HUMAN	GGAAAGGAAAAAGACTCATCAACATTCGTCGTCATTGGACACGTAGATTCGGCAAATCCACC		115
	T T C H L I Y K C G G I D K R T I E K F E		43
MOUSE	ACAACCGGCCACCTGATCTACAAAATGGTGGAAATCGACAAGCGGACCATGAAAAGTTTGAG		188
HUMAN	ACTACTGGCCATCTGATCTATAAATCGGTGGCATCGACAAAAGGCCATTGAAAAGTTTGAG		178
	K E A A E M* G K G S F K Y A W* V L D K L K		64
MOUSE	AAGGAAGCTGCTGAGATGGGCAAGGGCTCCTTCAAATGACGCTGGGTCTTACAAAAGTAAAA		251
HUMAN	AAGGAAGCTGCTGAGATGGGCAAGGGCTCCTTCAAATGACGCTGGGTCTTACAAAAGTAAAA		241
	A E R E R G I T I D I S* L W K F E T A* K Y		85
MOUSE	GCTGAGCGTGAGCGTGGTATCACTATAGACATCTCCCTGTGAAAATTCGAGACCCGAAAATAC		314
HUMAN	GCTGAGCGTGAGCGTGGTATCACTATAGACATCTCCCTGTGAAAATTCGAGACCCGAAAATAC		214
	Y* V T I* I* D A P G		94
MOUSE	TATGTGACCATCATTCATGATCCCCAGGC		341
HUMAN	TATGTGACTATCATTCATGATCCCCAGGC		331

Fig. 1. Comparison of the partial nucleotide sequence of mouse and human eEF-Tu. Deduced amino acid sequence, which is the same for the mouse and human factor, is shown in one letter code immediately above the mouse. The dots above the nucleotide indicate positions where there is a difference between the mouse and human mRNA. An asterisk adjacent to amino acid code letter indicates a difference between the mammalian and yeast protein sequence. Amino acid sequence differences between mammalian and *Artemia* occur at positions 6, 47 and 76. The arrows indicate the site of trypsin cleavage of eEF-Tu (see reference 4).

1. van Hemert, F.J. *et al.* (1984) *EMBO J.* **3**, 1109-1113.
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