The mouse homologue of the human acidic ribosomal phosphoprotein PO: a highly conserved polypeptide that is under translational control

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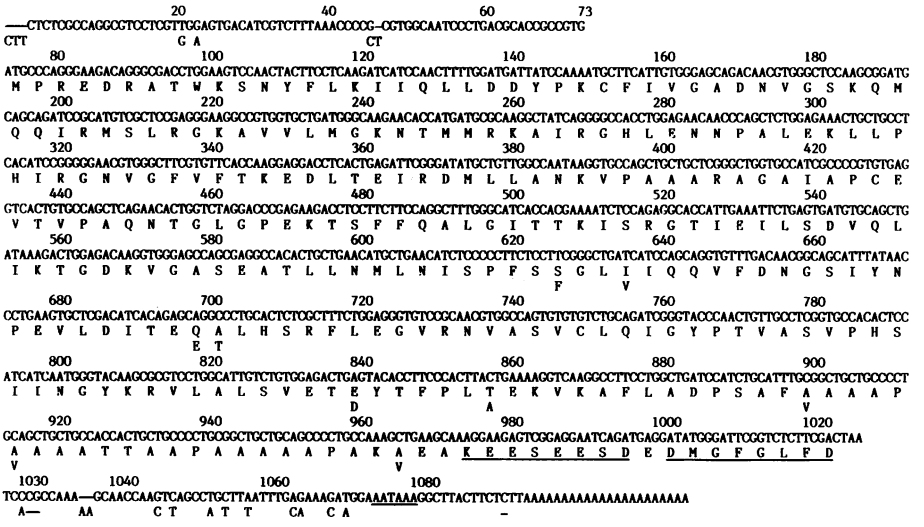
We describe the sequence of a mouse L cell cDNA for an abundant mRNA species coding for a 36 kilodalton polypeptide. The mRNA occurs to a large extent as untranslated mRNP particles unable to interact with the translation apparatus in various mouse cell lines (1). The derived amino acid sequence shows a remarkable degree of homology with that of the human acidic ribosomal phosphoprotein PO (2). Differences between the mouse and human sequences are indicated by residues underneath the mouse sequence.
The first 184 amino acids of the sequence are identical. The C-terminal motif (underlined) that is conserved among human P polypeptides (2) and alanine-, glycine- and proline-rich region of 20 to 30 residues adjacent to it which is common to P proteins also occurs in the mouse PO. The 5′ noncoding region is also highly conserved.
The findings indicate that the function of this protein must be strictly dependent on a unique amino acid sequence throughout most of the molecule, and that its intracellular levels must be tightly regulated.



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Refrences

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