Nucleotide sequence for a major messenger RNA for a 40 kilodalton polypeptide that is under translational control in mouse tumor cells

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We have obtained the sequence of a cDNA for an abundant mRNA species that occurs to a large extent as untranslated mRNP particles unable to interact with the translation apparatus in mouse tumor cell lines (1). The cDNA was isolated from a mouse L cell library in the Okayama-Berg vector (2). Primer extension using a synthetic oligonucleotide indicated that the cDNA is within about 34 nucleotides of being full length. The sequence shows an open reading frame for 295 amino acids. A shorter reading frame (for 11 amino acids), starting 41 nucleotides downstream of the initiation AUG, is also possible. The cDNA sequence begins with a run of Ts followed by a GC-rich segment, a feature observed on the 5' terminus of the transcripts for some mouse ribosomal protein genes, that are also under translational control (3). A similar sequence and a downstream shorter reading frame also occur on another major mouse mRNA (P21 mRNA) under translational control (1). Supported by NIH grant GM17973.

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