

## **The "Dark Matter" of Biological Regulation?**

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In addition to the sequence that specifies its protein product, each mRNA molecule also carries sequences that program the key events in its life history—where in the cell it is to be translated into a protein sequence, when and at what rate it gets translated, and when it should be destroyed.

We are working to systematically define the sequence of events in the life of each RNA molecule, the molecular system that regulates them, and the sequences in each mRNA that encode this program. Hundreds of specific RNA-binding proteins act as critical regulators in a multifaceted molecular system that controls the fate of each RNA. The regulation of mRNA fates by these RNA-binding proteins has many parallels to the regulation of the production of the mRNA molecules by the DNA-binding transcription factors.