P043 The Role of Poly(A)-Binding Proteins in Translational Control

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The poly(A) tail of mRNA is an important determinant of translational efficiency, and regulated cytoplasmic polyadenylation is correlated with the translational activation of some mRNAs. Although longer poly(A) tails are generally associated with actively translated mRNAs, some mRNAs with short poly(A) tails are also translated efficiently, suggesting that the situation is more complex than it initially appears.

The effects of the poly(A) tail on mRNA stability and translation are thought to be mediated by the cytoplasmic poly(A)-binding protein, PABP. In addition to the ubiqitous PABP1, higher eukaryotes encode a number of different PABPs which are expressed in specific tissues.

We are investigating the role of different PABPs in Xenopus laevis, using a combination of translation assays, expression analysis, gene knockdowns and analysis of protein partners. The role of these proteins in translational control will be discussed.