

P002 Expression patterns of the poly(A)-binding proteins in mammalian gonads

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Translational regulation during gametogenesis frequently depends on changes in poly(A) tail length which occur in the cytoplasm. The function of these poly(A) tails is mediated by a family of poly(A)-binding proteins (PABPs). PABPs are multi-functional translation initiation factors that also have important roles in mRNA stability and non-sense mediated decay.

To date, only the prototypical member of this family (PABP1) has been described in any detail. However, studies in *Xenopus oocytes* and early embryos have established that other PABPs (e.g. ePABP) share the ability to promote translation and that multiple PABPs can be present within the same cell, raising questions pertaining to their individual functions.

Mammals encode four structurally related PABP proteins; PABP1, PABP4, tPABP and ePABP. The expression patterns of these proteins have not been studied in any detail. However, PABP1 and PABP4 are generally considered to be ubiquitous and tPABP and ePABP are considered to be specific to a subset of male germ cells or germ cells and early embryos respectively. However, previous studies have generally relied on northern blot or RT-PCR analysis of whole tissues with an extremely limited amount of *in situ* analysis.

Here, we undertake a detailed analysis of the expression patterns of the different PABP proteins within the mammalian gonad. We find that the individual PABPs exhibit distinct RNA and protein expression patterns within these tissues.