

P022 The relative amount of polypyrimidine tract-binding protein regulates *in vivo* the selection of a 3' terminal exon of the *Xenopus* α -tropomyosin pre-mRNA
Caroline LE SOMMER, Marie-Rose ALLO, Séverine MENOIRET and Serge HARDY
UMR 6061 CNRS Université de Rennes1, Faculté de médecine, 2, avenue du Pr. Léon Bernard, 35043 RENNES cedex, France

The *Xenopus* α -tropomyosin gene contains an alternative 3' terminal exon (exon 9A9'), which is subjected to different splicing patterns according to the tissue environment. Using the *Xenopus* embryo as a model, we identified an intronic silencer which represses the downstream exon 9A9' in non-muscle cells. We showed that the *Xenopus* Polypyrimidine tract-binding protein (XPTB) binds to this element and is involved *in vivo* in the repression of exon 9A9'.

To study the physiological relevance of XPTB in the regulation of the endogenous α -tropomyosin pre-mRNA splicing, XPTB was depleted in developing embryos using morpholino antisense oligonucleotides. In these embryos, that presented a specific phenotype, we observed a strong derepression of exon 9A9' in non-muscle tissues demonstrating that XPTB is required *in vivo* to repress exon 9A9'. Transgenic embryos overexpressing XPTB in the somites were also produced. Exon 9A9' which is normally spliced in this tissue was excluded indicating that XPTB overexpression is sufficient to repress exon 9A9'.

Our results show that the relative amount of XPTB plays a major role, *in vivo*, in the tissue-specific splicing of the 3' terminal exon 9A9'. Because the definition of a 3' terminal exon implies a coupling between splicing and polyadenylation processes, we then designated an assay in *Xenopus* oocyte to uncouple and study both processes.