

CONCLUSIONS

- By antibodies against different covalent histone modifications and 5-methylcytosine, we have partially characterised the epigenetic changes taking place during the oocyte maturation and in early mammalian embryogenesis in the mouse and pig, respectively.
- We have also characterised the epigenetic reprogramming activities of cytoplasts derived from oocytes at different stages of maturation after somatic cell nuclear transfer.
- We have evaluated the epigenetic effects of selected procedures that are currently used for embryo production.
- Finally, we have developed a new cryopreservation scheme for oocyte nuclear material storage.

Our research is engaged in the development of new biotechniques as well as elucidating and characterising the epigenetic processes that take place during normal and abnormal embryogenesis. Abnormal embryonic development is for example often observed in somatic cell nuclear transfer embryos. These techniques can also be potentially used not only in human medicine but also for valuable livestock and endangered species preservation (by e.g. interspecies nuclear transfer). Especially in human medicine, attention to the ethical issues associated with these techniques must be paid. It is also clear that many biological problems still do exist and these should not be underestimated.