

Our experiences in cloning and ES cell research, from murine, livestock to primates

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Somatic cell nuclear transfer (SCNT) can provide tremendous potential for the study of mechanisms of reprogramming and development, unique alternative for the preservation of valuable individuals, breeds and species, as well as for future therapeutic efforts in regenerative medicine. Since the end of 1980s, we have been engaging in nuclear transfer and reprogramming research, and have succeeded in the cloning of rabbit, goat, bovine, mouse, rat, and ferret. We have also established ES cell lines from human, rabbit, mice and cloned mouse embryos. However, SCNT and therapeutic cloning remains an inefficient process and successful production of healthy cloned embryos and offspring have been challenging. In this presentation, we will share our experiences in SCNT and ES cells research in murine, livestock and primates, and discuss the current and future applications of cloning and therapeutic cloning in basic science research as well as in regenerative medicine.

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Academy of Sciences. The research interest is to study the mechanism of differentiation and de-differentiation, cellular plasticity and totipotency of the stem cells, as well as that of the somatic cells. We intend to build various cellular and animal models of human diseases to offer opportunities for therapeutic and regenerative medicine, in addition to produce bioreactor animals by nuclear transfer.