

## CURRENT DEVELOPMENT OF PORCINE EMBRYONIC STEM CELLS AND INDUCED PLURIPOTENT STEM CELLS IN TAIWAN

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Porcine pluripotent stem cells such as embryonic stem cells (pES) and induced pluripotent stem cells (piPS) have been successfully established in Taiwan. These cells survived repeated subcultures, maintained typical colony morphology, normal karyotype, embryoid body (EB) formation, pluripotent cellular markers and continued expressing green fluorescent protein (GFP). They could differentiate into cell lineages representative to three germ layers after *in vitro* induction. The pigs, on the basis of their similarity in anatomy, immunology, physiology, and biochemical properties, have been wide used as model animals in the study of various human diseases. The therapeutic implications of pES and piPS have been demonstrated in modeling of Parkinson's disease, spinal cord injury and osteoporosis in rats, as well as autotransplantation to porcine model for Parkinson's disease and osteoporosis. Therefore, further in-depth study of of pES and piPS would immediately benefit the biomedical research and regenerative medicine of cell-based therapeutic strategy in humans.