



Figure 2. A Maternal Genome and a Paternal Genome are Needed for Mammalian Reproduction

The nuclear transfer technique used micropipettes and high-powered microscopes to remove the male or female nuclei from a newly fertilized egg and place them in various combinations into a second “host” fertilized egg that had already been enucleated, thereby generating anew, diploid embryos with two maternal (Gynogenetic) or two paternal (Androgenetic) genomes or a biparental genome (Wildtype). Gynogenetic and androgenetic embryos were lethal at early embryonic stages. Only reconstituted embryos that received both a maternal and paternal nucleus (Wildtype) survived to produce living young. These experiments show the necessity for both the maternal and paternal genome in mammalian reproduction and indicate that the two parental genomes express different sets of genes needed for complete embryonic development.