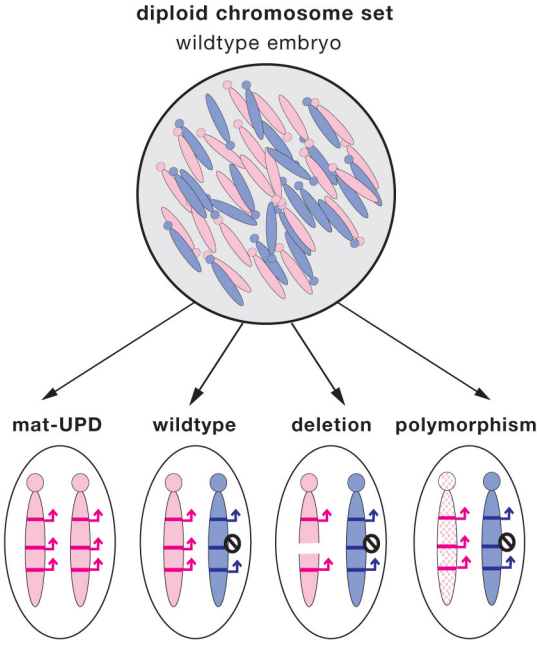

Figure 1. Mouse Models to Study Genomic Imprinting That Allow the Maternal and Paternal Chromosome to Be Distinguished

Mammals are diploid and inherit a compete chromosome set from the maternal and paternal parents. However, mice can be generated that (1) inherit two copies of a chromosome pair from one parent and no copy from the other parent (known as uniparental disomy or UPD); (2) inherit a partial chromosomal deletion from one parent and a wild-type chromosome from the other parent; (3) inherit chromosomes carrying single-nucleotide polymorphisms (known as SNPs) from one parent and a wild-type chromosome from the other parent. Offspring with UPDs or deletions are likely to display lethal phenotypes, whereas SNPs will allow the production of viable offspring. (mat) Maternal, (stop sign) the imprint.