



Figure 2. The Cycle of X Inactivation and Reactivation

The X chromosome undergoes a cycle of X inactivation and X reactivation during development. Red arrows indicate X-inactivation steps, and green arrows indicate X-reactivation steps. Inactivation first occurs in early preimplantation embryos (imprinted X inactivation) and subsequently in cells of the epiblast at the time of gastrulation (random X inactivation). The inactive X is reactivated in inner cell mass (ICM) cells when they are first allocated at the blastocyst stage, and also in the developing germ cells.