

Public Abstract

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Title:Determination of allelic expression of H19 in pre- and peri-implantation mouse embryos

Imprinted genes are a subset of mammalian genes that are expressed only from one of the two parental chromosomes. These genes are involved in controlling growth and development of the fetus and the placenta. The maternally-expressed gene H19 is associated with tumor suppressor activity in the embryo. Previous reports show that culturing embryos (growing embryos outside of the uterus) results in abnormal activation of H19 from both parental chromosomes. The results presented in this thesis show that biparental expression of H19 is not the result of embryo culture but rather a normal event at the time of embryo attachment to the uterus in order to reduce the amount of product from a paternally-expressed gene with tumor enhancing activity.