

# Scientists identify embryonic cell gene

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A discovery by University of Missouri-Columbia scientists might explain why cloning often fails in farm and laboratory animals.

The researchers say their study involving the formation of an embryo and a placenta before implantation might have implications for in vitro fertilization techniques that are widely used in human fertility procedures.

Professor R. Michael Roberts and colleagues found that when a mouse egg is fertilized and begins cell division, the first two cells are not created equal.

One of the cells expresses a protein known as Cdx2 and will create others that form the placenta. The other cell that doesn't express the protein will form the fetus.

The researchers say any disruption of the Cdx2 expression might lead to an improperly formed placenta or a pregnancy failure. Disruption can occur when material is either injected or replaced in the cells, including during animal cloning techniques and in vitro fertilization procedures.

"These findings and our future research may have considerable implications in how babies develop, whether they are mice or humans," said Roberts.

The study appears in the Feb. 17 issue of Science.

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