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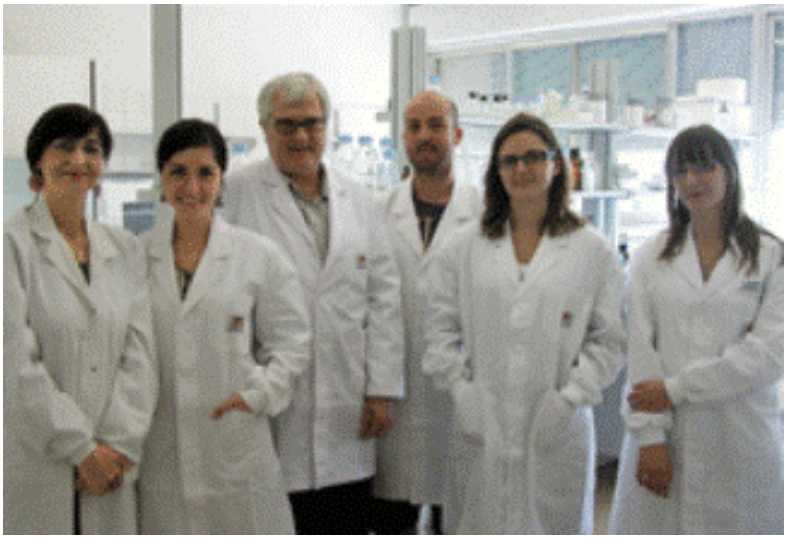
UAB succeeds in new embryo genetic testing techniques



Researchers from the Unit of Cell Biology and Medical Genetics have developed methods of molecular genetic analysis in single cells (mutations and study of all chromosomes 1 to 22, X and Y) that have already been applied to Preimplantation Genetic Diagnosis (PGD) for Double Factor genetic (DF-PGD) on embryos in extreme cases of infertility and inherited diseases. The embryos could be successfully transferred to the uterus. The research was done in collaboration with three centers of assisted reproduction and health in Catalonia: the Eugin Clinic, the Dexeus Institute and the Foundation Puigvert-Hospital de la Santa Creu and Sant Pau, in the framework of the Research Chair Eugin-UAB (May 2008-May 2012).

The UAB, in collaboration with the Eugin Clinic, used the technique to achieve, for the first time in the world, the birth of a child of a couple in which the father was a double translocation carrier, an alteration which minimises the success of in vitro fertilisation.

In collaboration with the Dexeus Institute, the birth of a healthy baby girl was made possible after

the application of PGD of chromosomal abnormalities, given the mother's advanced age. In this case the mother was a 42-year-old woman with normal chromosome analysis, but who had already undergone several unsuccessful fertility treatments.

Finally, in collaboration with the Foundation Puigvert-Hospital de la Santa Creu and Sant Pau, UAB researchers developed a double factor PGD (DF-PGD) which, in addition to the mutation responsible for familial disease, analyses all evolutionary chromosomes of the embryo, which can also be transferred without the need of freezing them. In this case, for the first time worldwide, thanks to this technique it was possible to see the birth of twins (boy and girl) without the family pathology of having a hereditary predisposition to nonpolyposis colorectal cancer (Lynch syndrome). In this case, the pregnancy made of two embryos transferred a substantial increase over the application of PGD without double analysis.

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