

イギリス：現在認可されている胚作成を伴う研究③

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HUMAN FERTILISATION & EMBRYOLOGY AUTHORITY



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Investigation into the Role of Sperm PLC-Zeta in Human Oocyte Activation

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Lay summary:

At fertilisation the sperm fuses with egg and sends a signal to the egg to trigger it to begin development. Without the signal the process of fertilisation is not successful and no cell division (cleavage) or further embryonic development can occur. Our research in mouse eggs has recently shown that sperm contain a particular protein that appears to go into the egg when the sperm and egg fuse together at fertilisation. This protein is able to send the same signals to the mouse egg that are normally seen at fertilisation. We do not yet know whether a similar protein is effective in the fertilisation of human eggs. In this project we plan to use human eggs that have failed to fertilise during IVF treatment cycles and inject them with this protein to see how effective it is in stimulating early cleavage to begin. These cleavage stage embryos do not have the ability to develop much beyond the blastocyst stage (5-6 days) because they will lack any genetic contribution from a sperm. In any event, they will be destroyed after we have examined the formation of the blastocyst. We expect that these studies will provide important information on how sperm trigger development during human fertilisation and what happens during the early cell divisions. It may help us explain why some eggs fail to fertilise and why some eggs that do start to fertilise then stop growing in culture.