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Incomplete transformation of
rabbit embryo coverings in vitro *

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Rabbit embryo coverings are typically transformed during regular uterine preimplantation development¹. The zona pellucida disappears around Day 4 p.c. and is replaced by the neozona a day later. We studied this transformation in rabbit embryos recovered 3 to 6 days p.c. which were subsequently cultured in vitro (1.5% BSA) for 12 to 48 h. The dissolution of the zona pellucida did not take place in our in vitro system such leading to a severe restraint of blastocyst expansion in vitro. The formation of the neozona was heavily disturbed. However, a massive accumulation of a homogenous material was found in the perivitelline space regardless whether the embryos were placed in culture without any previously formed neozona or had already built first layers of neozona in utero. These findings demonstrate that uterine factors may be of decisive importance for the normal transformation of coverings in preimplantation embryos in the rabbit.

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