

## Gamete Alert

### Endometrial Cell-Secreted Extracellular Vesicles Containing Implantation-Related miRNAs Uptake by Human Blastocysts

The study's findings provide evidence that human embryos uptake extracellular vesicles (EVs) secreted by the maternal endometrium. These EVs carry a cargo of miRNAs that play crucial roles in various processes related to implantation and early embryo development. The EVs were shown to be efficiently internalized by human blastocysts, particularly in the hatched pole of the embryos. The miRNA-seq analysis identified 149 annotated miRNAs, with 37 considered most relevant, targeting 6592 genes involved in essential biological processes like embryo development, cell cycle, metabolism, and gene expression. Notably, miRNAs such as hsa-miR-92a-3p, hsa-let-7b-5p, hsa-miR-30a-5p, hsa-miR-24-3p, hsa-miR-21-5p, and hsa-let-7a-5p were identified as key regulators. These findings suggest that the maternal endometrial EVs and their miRNA cargo play a crucial role in supporting successful implantation and early embryo development.

#### Human blastocysts uptake extracellular vesicles secreted by endometrial cells containing miRNAs related to implantation

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