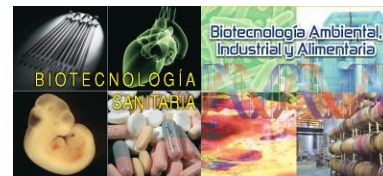


## Poster

## The use of platelets microparticles and associated factors for improve the endometrium pontentiality



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**Keywords:** Endometrium receptivity; endometrium in vitro models; platelet micropaticles

### ABSTRACT

**Motivation:** Despite, the high advances in assisted reproductive technology (ART), with technics like: i) intrauterine insemination (IUI); ii) in vitro fertilization (IVF) and; iii) intracytoplasmic sperm injection (ICSI); the rate of success still remains very low, about 30-33%. Implantation is a highly controlled process, involving a dialogue between the endometrium and the implanting embryo, which is crucial for the establishment and maintenance of pregnancy (Pafilis et al., 2007). When the endometrium is receptive and available to establish this dialogue is called the "window of implantation" (WOI). Nowadays, large amounts of resources are being invested are to find a way to improve or boost the potentiality of the endometrium.

**Objective:** Characterize the effect of the microparticules and factors, derived from the activation of Platelets, to the endometrium with the goal of raise the ratio of embryo implantation.

**Methods:** An in vitro model of embryo implantation, is used two different cell lines: Hec-1A in monolayer culture simulating the endometrium and JAR as trophoblast models (pseudoembryos). These lines are co-incubated using five different concentrations of MPPs and factors to quantify the ratio of adhesion. Finally, 192 genes that have been shown to be related to endometrial receptivity are studied using qPCR by BioMark HD Fluidigm.

**Conclusion:** Through the use of MPPs and different factors (before and after embryo transfer) in this two cell lines and the 192 genes, it is intended to observe different changes in the transcriptomic endometrial profile, producing morphological and molecular changes that improves the endometrial receptivity during the WOI for a successful implantation raising the number of pregnancies

### REFERENCES

Burnouf, T., Goubran, H. A., Chou, M. L., Devos, D., & Radosevic, M. (2014). Platelet microparticles: detection and assessment of their paradoxical functional roles in disease and regenerative medicine. *Blood reviews*, 28(4), 155-166.

Cha, J., Sun, X., & Dey, S. K. (2012). Mechanisms of implantation: strategies for successful pregnancy. *Nature medicine*, 18(12), 1754-1767.

Pafilis J, Batistatou A, Iliopoulou A, Tsanou E, Bakogiannis A, Dassopoulos G, Charalabopoulos K. Expression of adhesion molecules during normal pregnancy. *Cell Tissue Res* 2007;329:1–11.