

CLINIQUE

IDENTIFICATION OF NEW BIOMARKERS OF HUMAN ENDOMETRIAL RECEPTIVITY AND MATERNAL-FETAL DIALOGUE

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CISION
American Society for Reproductive Medicine

Over-represented biological terms

endometrium

are characteristic of a receptive

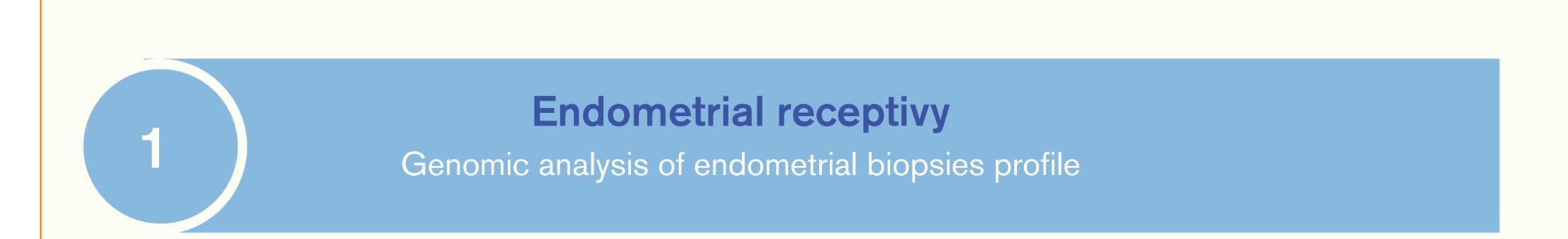
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INTRODUCTION

The endometrial receptivity is a key process for the success in assisted reproductive technology. Despite careful embryo selection, two of every three in vitro fertilization (IVF) cycles fail to result in pregnancy, and more than 8 of every 10 transferred embryos fail to implant, making reproduction in humans an inefficient process. The key to successful implantation and subsequent invasion and decidualization is synchronization. The embryo must not only evolve to the blastocyst stage, but the endometrium must also achieve a specific receptive status and cross-talk between the embryo and endometrium must occur during a specific period known as the window of implantation (WOI). Which is usually more or less delayed in recurrent implantation failures. Therefore, it appears essential to identify inadequate endometrial receptivity to offer personalized care management. Molecular diagnostic tools currently available to characterize this process are very limited. In this study, we describe the development and validation of a new personalized molecular test based on endometrial receptivity and maternal-fetal dialogue.

PARTICIPANTS/MATERIALS, AND METHODS

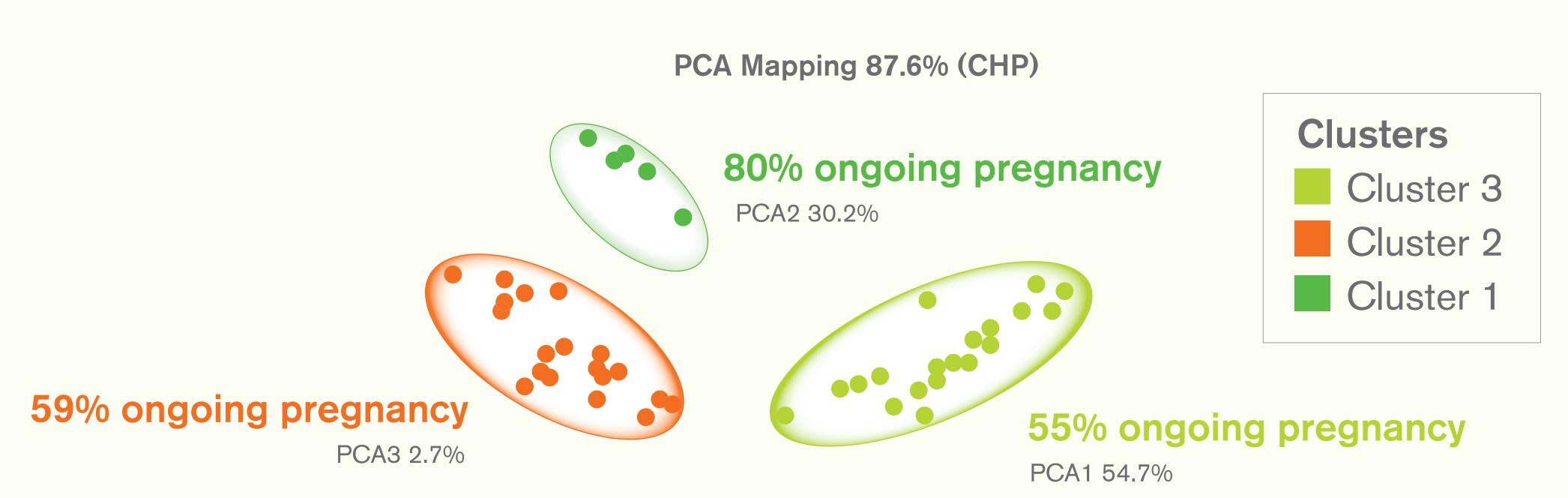


50 biopsies

Biopsies were perfomed in a natural cylce during the optimal theoretical implantation window LH+7 to LH+9 (matrico project)

Pregnancy outcome is know

35 with successful clinical pregnancy 15 with implantation failure



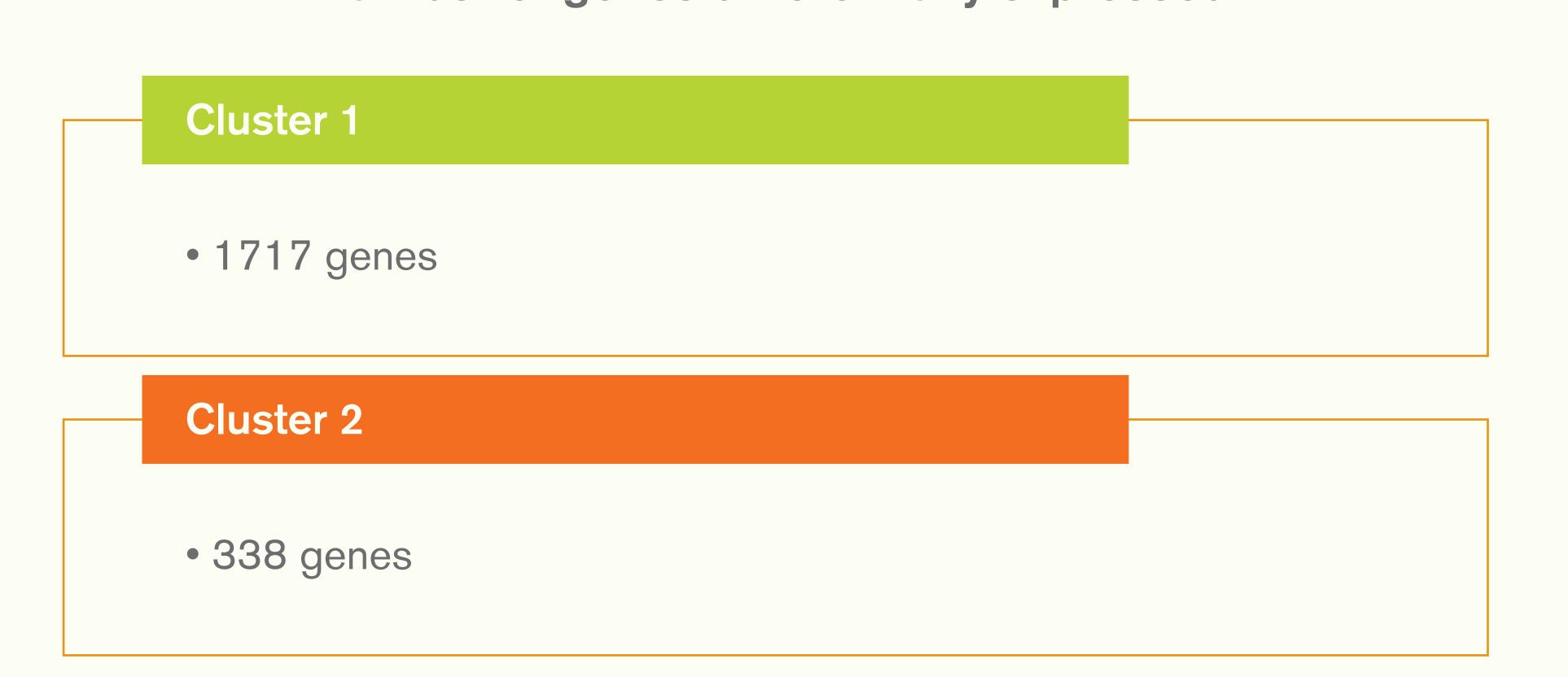
CONCLUSION

Evaluation of receptivity and embryo implantation of an endometrium with this new molecular signature can predict IVF success and may help in the management of endometrial preparation for embryo transfer and optimizes chances of successful pregnancy for many couples.

RESULTS

GENOMIC ANALYSIS OF ENDROMETRIAL BIOPSIES PROFILE

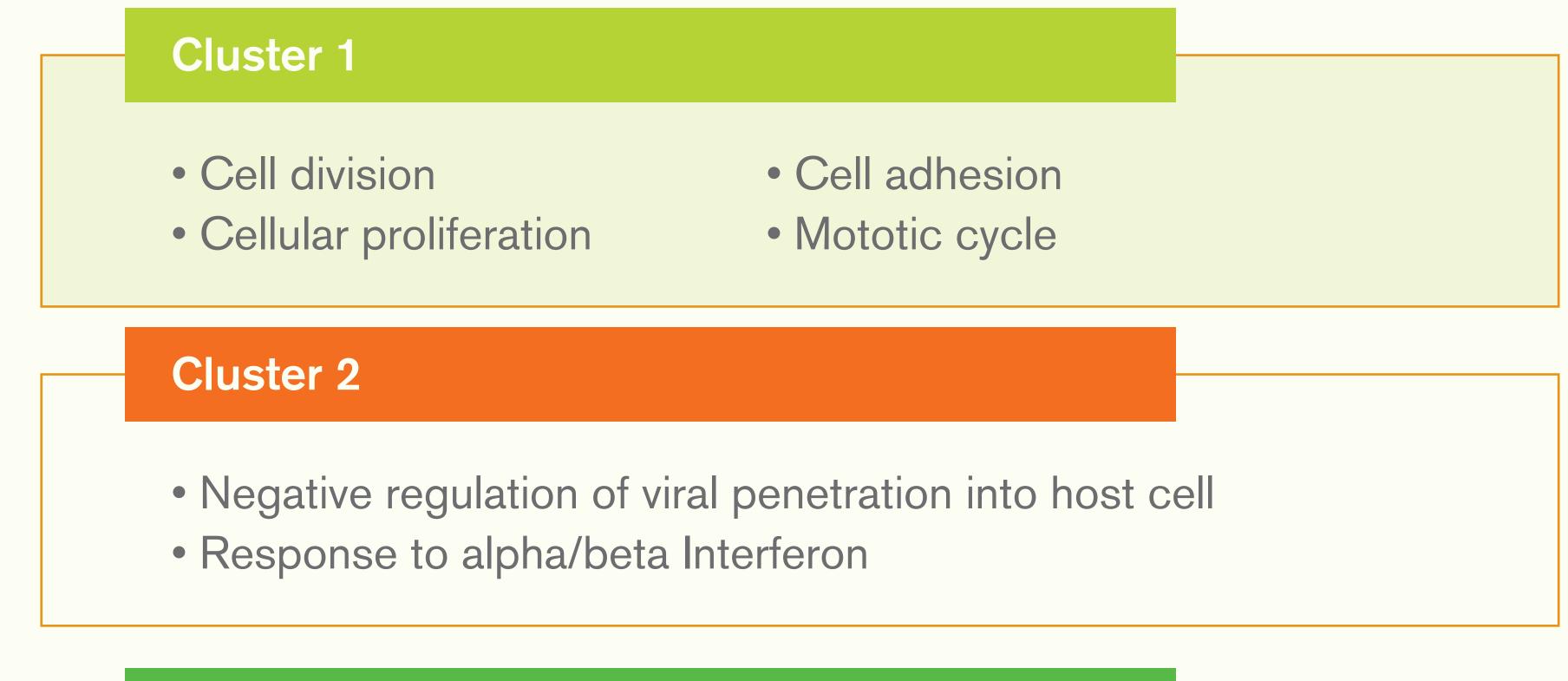
Number of genes differentially expressed



Cluster 3

• 290 genes

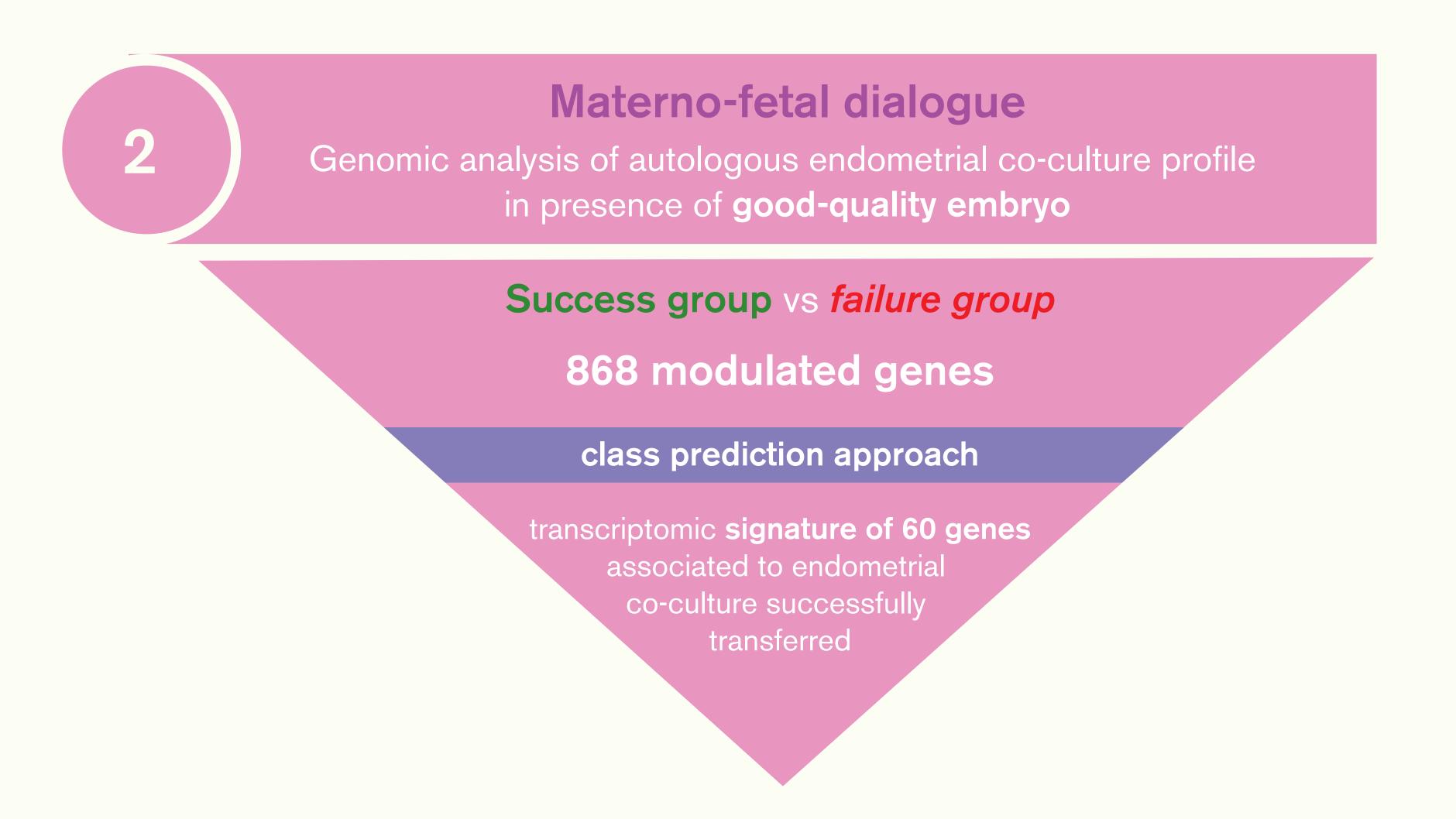
Gene ontology analyzes of over-represented biological terms

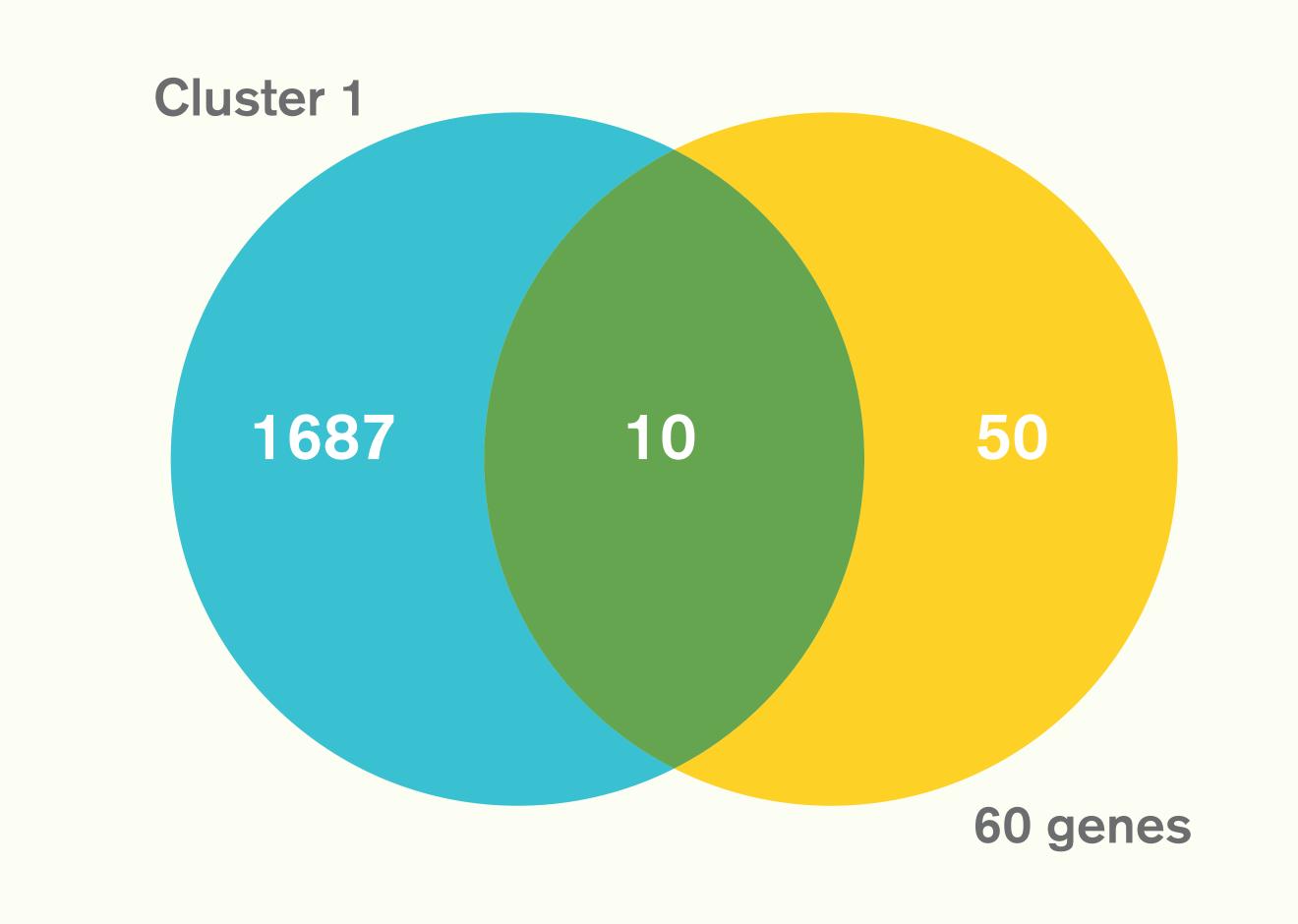


Cluster 3

Regulation of inflammatory stressHormonal regulation

Response to inflammatory stress







Original panel of 10 genes involved in endometrial receptivity and materno-fetal dialogue

Provisional application US 62,864,979

REFERENCES

- (1) Messaoudi S, El Kasmi I, Bourdiec A, Crespo K, Bissonnette L, Le Saint C et al. 15 years of transcriptomic analysis on endometrial receptivity: what have we learnt? Fertil Res Pract. 2019;5:9. doi:10.1186/s40738-019-0059-7.
- (2) Kadoch IJ, Messaoudi S, El Kasmi I, inventors; Method for predicting endometrial receptivity to embryo implantation. U.S. Provisional Patent 62/864.979 filed June 2019.
- (3) S. Messaoudi, I. El Kasmi, C. Le Saint, F. Bissonnette, I.J. Kadoch. Development and validation of an original test to evaluate human endometrial receptivity and embryo implantation. 35th Annual Meeting of ESHRE Vienna 2019. Abstract number: V19-1794
- (4) Messaoudi S, El Kasmi I, Bissonnette L. Kadoch IJ.Development and validation of new personalized endometrial receptivity and maternal-fetal dialogue. (in process).









