

**An advanced test
assessing the endometrial
receptivity to improve the
reproductive outcome
of infertile patients**

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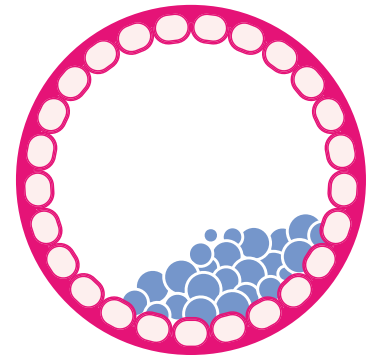
ENDOMETRIUM AND WINDOW OF IMPLANTATION

Many women undergoing in-vitro fertilization (IVF) cycles of assisted fertilization fail to achieve pregnancy despite the fact that high morphological quality embryos have been transferred. This could be related to the fact that embryos are transferred to an uterus that is not yet ready to receive it.

The appropriate timing for embryo transfer is of fundamental importance for the success of the IVF treatment and must be determined within a time window, named **“Window of Implantation or WOI”**, in which the endometrium is in the so-called **“receptive”** stage, i.e. favorable to the acceptance and subsequent implantation of the embryo.

For most women, the optimal timing for embryo transfer is the same; for some women, however, the window of implantation may be **displaced** (i.e. it may occur slightly earlier or later than expected), thus leading to the transfer of the embryo to a non-receptive endometrium.

The lack of synchronization between an embryo ready for implantation and the endometrial receptivity stage is one of the main causes of **repeated implantation failure (RIF)** in IVF. Women with a clinical history of RIF may have a displaced window of implantation. Consequently, it is important to identify, in advance and accurately, the time window of **“endometrial receptivity”**, in order to improve the success rate of IVF treatments.

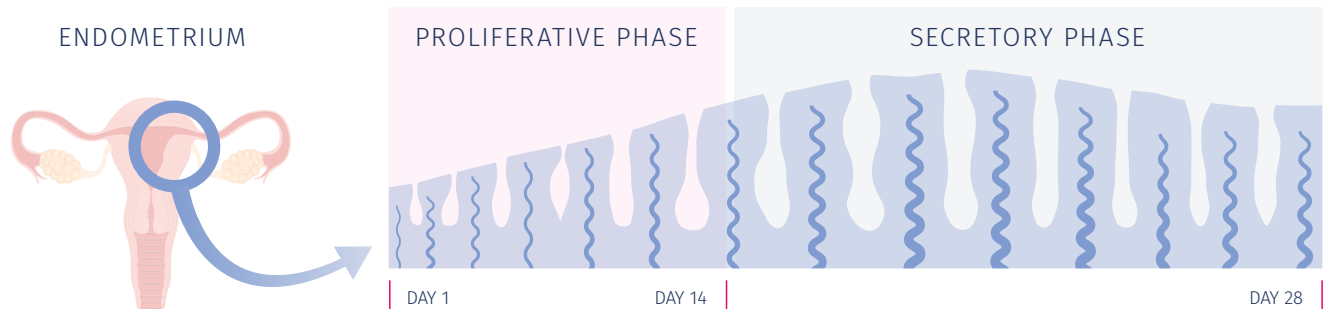




ENDOMETRIAL RECEPTIVITY AND PERSONALIZED EMBRYO TRANSFER

The endometrium is more receptive to the implantation of the embryo over a short period in the middle of the secretory phase. This period of receptivity (**Window of Implantation**) usually occurs between the **19th** and **21st** day of the natural menstrual cycle (between the 5th and 7th day post-ovulation). In all other phases of the cycle, the endometrium is not receptive.

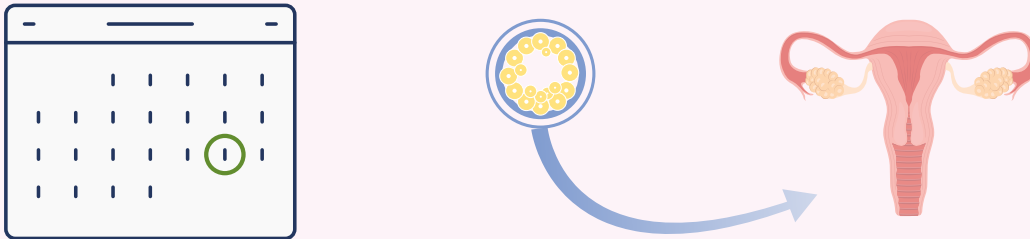
Endometrial gene expression profiling enables determination of the endometrial receptivity status and the identification of a specific window of implantation for each patient, in which the endometrium is receptive, thus allowing for a **personalized embryo transfer (pET)**.






ADVANCED ENDOMETRIAL RECEPTIVITY ASSESSMENT

An **innovative** genetic test that evaluates the **endometrial receptivity** with the use of transcriptomics techniques and allows accurate determination of the **optimal timing** in the endometrial cycle to perform **embryo transfer**.

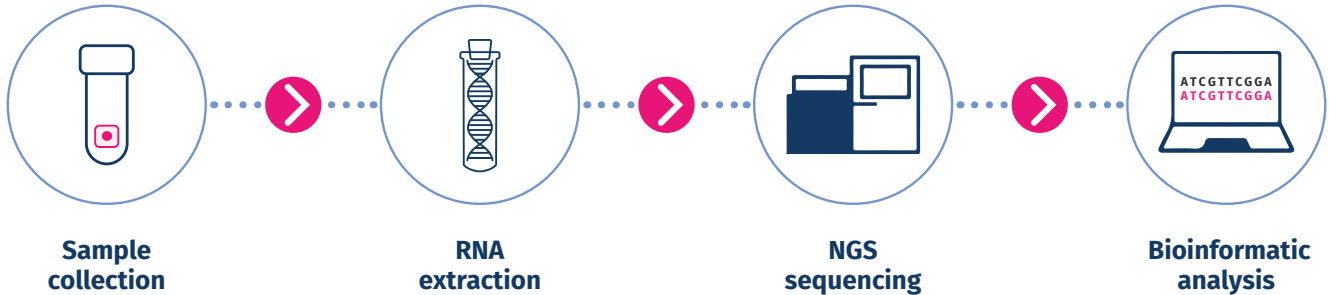


 **ENDORECEPT** determines the endometrial gene expression profile by analyzing **over 400 genes** related to the endometrial receptivity, identifying a personalized window of implantation for each patient.

The test has the potential to increase the **chances of pregnancy** by synchronizing an embryo ready for transfer with a receptive endometrium.



A GROUNDBREAKING TECHNOLOGY COUPLED WITH AN ADVANCED BIOINFORMATIC ANALYSIS



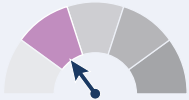
The test evaluates the gene expression profile of **over 400 genes**, using a high-resolution NGS sequencing technology. An advanced bioinformatic analysis, using specific computational predictors, allows classification of endometrial samples based on their receptivity stage, by determining the related gene expression profile.



TEST RESULTS



RECEPTIVE The gene expression profile of the endometrial tissue is compatible with a **receptive** endometrium. This result shows that the window of implantation coincides with the day of sample collection.



EARLY RECEPTIVE: The gene expression profile is compatible with an endometrium at the **beginning of the receptive stage**. Based on the test result, full receptivity will potentially be reached after about **12-24h**.



LATE RECEPTIVE: The gene expression profile is compatible with an endometrium at the end of the **receptive stage**. Based on the test result, full receptivity will potentially be reached about **12-24h** earlier.



PRE-RECEPTIVE: The gene expression profile is compatible with an endometrium at a **pre-receptive stage**. This could be due to a displacement of the window of implantation.



POST-RECEPTIVE: The gene expression profile is compatible with an endometrium at a **post-receptive stage**. This could be due to a displacement of the window of implantation.

The test report will indicate the optimal timing to perform a **personalized embryo transfer (pET)** or when to perform a new biopsy to repeat the test (as appropriate).



INDICATION FOR TESTING

- Patients with a clinical history of **Repeated Implantation Failure**¹
- Patients with **BMI > 30**²⁻³
- Patients with endometrial atrophy (**endometrial thickness <6 mm**)⁴
- Patients with **adenomyosis**⁵
- Patients with **recurrent biochemical pregnancies**⁶

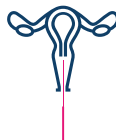
HOW TO ORDER A TEST



Order the
EndoRecept
shipping kit



Fill the TRF and enclose the
informed consent signed
from the patient



Collect the endometrial
sample following the
instructions provided



Ship the sample to
Genomica



Receive results
within 15 days

Turnaround time



15 days

1. Simón C, et al. *Reproductive BioMedicine Online* 2020

2. Comstock IA, al. *Fertil Steril.* 2017

3. Bellver, et al. *Reprod. Sci.* 2021

4. Valbuena D, et al. In *HUMAN REPRODUCTION* 2016 (ESHRE)

5. Mahajan N, et al. *Journal of human reproductive sciences.* 2018

6. Díaz-Gimeno P, et al. *Fertil Steril.* 2017

GENOMICA is recognized as one of the most advanced molecular diagnostics laboratory in Europe, both for the state-of-the-art instruments and technologies, as well as for its high quality standards.

With a **comprehensive portfolio of over 10.000 genetic tests**, GENOMICA is able to satisfy increasingly specialised requests in the field of molecular genetics, providing physicians and their patients with innovative and highly specialised diagnostic solutions for any clinical need.



Over **100.000** genetic tests/year



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Laboratories with **groundbreaking technologies** and high quality standards



Test performed in Italy
(Rome or Milan)



Dedicated R&D team



International **Partnerships**



Personalized genetic counseling
with genetic counselors experts
in discussing genetic test
results and familial risks



Professionals with 20+ years experience in the field of
genetics and prenatal molecular
diagnostics



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