myDNAmap
fertility

myDNAmap
the power of your genetics

myDNAmap is a medical genome company that was established with the aim of helping the general public to access all of the information included in their DNA, so they can better care for their health and that of their family.

myDNAmap offers a unique and comprehensive service in the field of preventative medicine. We sequence the whole genome containing all of the genes associated with a person's health and wellbeing. We provide pre- and post-sequencing advice, which will answer any questions and explain the results. We have developed **myDNAapp,** a mobile app where you can consult your results, contact health and science professionals and enter information regarding your health, which helps to personalise your genetic report. Furthermore, **myDNAmap** offers annual updates, which include the most recent discoveries in the field of genetics.

We know that every one of us is unique and individual just like our DNA.

Knowing your genetic profile will help you to take care of your health and that of your family. Today, tomorrow and always.

Always check **mydnamap.com** for the latest updates of our services.

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Our panel will help you to:

- know the genetic factors that can influence fertility.
- make informed decisions regarding available treatment.

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Who is the myDNAmap Fertility panel intended for?

- Any patient who intends to undergo controlled ovarian stimulation for assisted reproductive techniques.
- Failures in previous assisted reproduction due to bad quality oocytes, failures in fertilization and/or detection of embryonic development.
- Patients with ovarian hyperstimulation risk syndrome (OHRS).
- Women with diminished ovarian reserve of unknown cause.
- Women with a desire to preserve eggs.
- Patients with recurrent pregnancy loss.

- Azoospermia (absence of spermatozoids in the ejaculate).
- Oligozoospermia (reduced mobility).
- Severe astenozoospermia (change in sperm mobility).
- Terazoospermia (change in form).
- Failed fertilisations.

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According to the World Health Organisation (WHO), infertility is defined as the inability to become pregnant after 12 months of regular unprotected sex.

Infertility is a relatively common health condition and affects approximately 1 in 6 couples. Clinically speaking, it is highly heterogeneous, with a complex aetiology that affects the reproductive system in both males and females, and which can result from distinct factors: anatomical, hormonal, genetic, infectious, environmental, and lifestyle habits

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Consultations regarding reproduction can be varied and in some situations can cause many physical and emotional disorders. Currently, there is no test that is able to exactly determine a healthy person's ability to become a mother/father by natural methods. Although the majority of couples still receive an idiopathic infertility diagnosis, it is estimated that 1 in 10 cases are due to genetic factors.

Main causes of infertility

	 In women	 In men
Age	The reproductive potential of females reduces from 35 years onwards	The reproductive potential of men reduces from 45 years onwards
Diseases **10% are basic genetics, heritable and transmissible**	Lesions in the reproductive system: Lesions of the fallopian tubes, endometriosis (existence of endometrial tissue outside the uterus), myomas (are benign tumours originating from smooth muscle cells on the wall of the uterus).	Changes to the quality and quantity of spermatozoids, ejaculatory duct or urethra.
	Sexually transmitted diseases. Chronic diseases, like cancer. Hormonal (endocrine) diseases.	

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The **myDNAmap** genetic test based on genome sequencing is intended for people who are interested in learning about their reproductive genetic profile before starting to try for children. It is important to highlight that we only assess the potential risk of genetic variants associated with infertility. There are also acquired factors that are not addressed in our test.

Our panel analyses **more than 100 genes** related to male and female fertility. In women, we study the genes that are associated with ovarian production and abnormalities of the reproductive and endocrine systems. In men, we study the genes associated with sperm morphology and sperm production and, also, those associated with abnormalities in the reproductive and endocrine systems.

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Knowing the reproductive function within your genetic profile in advance, allows you to make informed decisions about available treatments as soon as possible and with a greater chance of success when trying to conceive a child.

Conditions studied

- Ovarian insufficiency
- Premature/ovarian dysfunction
- Hypogonadism
- Recurrent pregnancy loss
- Failure in ovocyte maturation
- Polycystic ovary syndrome
- Ovary hyperstimulation syndrome

- Spermatogenic failure
- Hypogonadism
- Androgen insensitivity
- Congenital absence of the vas deferens
- Other male factors associated with infertility

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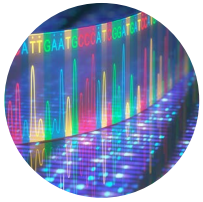
Analysed genes

ADGRG2, AIRE, AMH, AMHR2, ANOS1, AR, AURKC, BMP15, CAPN10, CATSPER1, CATSPER2, CCDC141, CCDC39, CCDC40, CDC14A, CFAP43, CFAP44, CFAP69, CFTR, CHD7, CYP11A1, CYP11B1, CYP17A1, CYP19A1, CYP21A2, DIAPH2, DNAAF2, DNAAF4, DNAH1, DNAH5, DNAI1, DPY19L2, ERCC6, ESR1, F2, F5, FANCA, FANCM, FGF8, FGFR1, FIGLA, FMR1 , FOXL2, FSHB, FSHR, GALT, GATA4, GDF9, GNRH1, GNRHR, HFM1, HOXA13, HS6ST1, HSD17B3, HSD3B2, HSF2, INSL3, ANOS1 (KAL1), KISS1R, KLHL10, LHB, LHCGR, LRRC6, MAMLD1, MAP3K1, MCM8, MCM9, MRPS22, MSH5, NANOS1, NOBOX, NR0B1, NR5A1, PADI6, PANX1, PIH1D3, PLCZ1, PMFBP1, POF1B, PROC, PROK2, PROKR2, PROP1, PROS1 , PSMC3IP, RSPO1, SEMA3A, SEPTIN12, SERPINC1, SLC26A8, SOHLH1, SOX10, SOX2, SOX3, SOX9, SPATA16, SRD5A2, SRY, STAG3, SULT2A1, SUN5, SYCE1, SYCP3, TACR3, TAF4B, TEX11, TEX15, TLE6, TUBB8, USP9Y, WDR11, WDR66, WT1, ZMYND15, ZP1

Related panels



myDNAmap neurology

The **myDNAmap** report given to you by our genetic counselors includes the result of the analysis of 10 genetic panels covering the areas of: sport, nutrition, cardiology, fertility, cancer, genetic compatibility, ancestry, pharmacology, addictions and neurology.

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Technology used

Whole genome sequencing (WGS) using Illumina HiSeq X10 or NovaSeq 6000 systems. Illumina PE150, QQ30 ≥80%, aligned with the human reference genome GRCh37/hg19. The classification and analysis of variants is carried out based on the recommendations of the American College of Medical Genetics and Genomics (ACMG). The variants reported are mentioned based on the recommendations of the Human Genome Variation Society (HGVS).

Our report: is the scientific-technical communication of the results. It is written in a precise yet simple manner, intended for both our users and health professionals. It is provided within the framework of a consultation with one of our genetic counsellors. This can take place via videoconference. During the consultation the specialised professional will explain the details, answer any user queries and clear up any doubts that may occur.

Note: the detection of genetic variants only provides a predisposition or potential, but never provides a certainty of developing diseases. Under no circumstances is the genetic information provided valid for diagnostic use. It does not imply the potential to determine the age you will be when it starts nor the type or severity of the disease(s); nor does it allow us to rule out the existence of clinical or genetic heterogeneity.

Bibliography:

- A systematic review and standardized clinical validity assessment of male infertility genes. 2019. PMID: 30865283
- Human gene mutations causing infertility. 2002. PMID: 11897813
- CFTR gene mutations and male infertility. 2000. PMID: 10755189
- Fertility in patients with congenital adrenal hyperplasia. 2013. PMID:24355046.
- Primary ovarian insufficiency in classic galactosemia: current understanding and future research opportunities. Thakur M. et al. J Assist Reprod Genet. 2017.
- Genetics of Female Infertility in Humans. 2014. PMID: 23499866

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