



What is NACE®?

- NACE® is a **non-invasive prenatal screening test** that analyzes the most frequent chromosomal abnormalities **without compromising the pregnancy**.
- A **simple foetal blood draw from the mother** allows free DNA circulating in the maternal bloodstream to be detected via next generation sequencing technology and advanced bioinformatic analysis.
- NACE delivers results in only 3 days.** Cases require a second blood extraction **less than 0.1%**.



Test carried out in Spain

Why a non-invasive prenatal test?

Non-invasive tests can prevent the need for about 98% of invasive tests in patients at risk for T21³.

* The current standard for detecting prenatal chromosomal abnormalities requires the use of invasive techniques (amniocentesis and chorionic villus sampling), which together carry a risk between 0.5%-2% of miscarriage.

* NACE® provides reliable information which avoids the need for invasive techniques.

Who is NACE® it suitable for?

- It is especially recommended for women with an abnormal result in their first trimester¹, with previous Down's syndrome pregnancies, or those pregnancies with a suspicious finding ultrasound.
- It is valid for single or twin pregnancies*. With high sensitivity and specificity in both cases.
- It can be performed for cases of in vitro fertilization and in pregnancies originating from oocyte donation.
- For women of any age, regardless of body mass index or ethnicity.

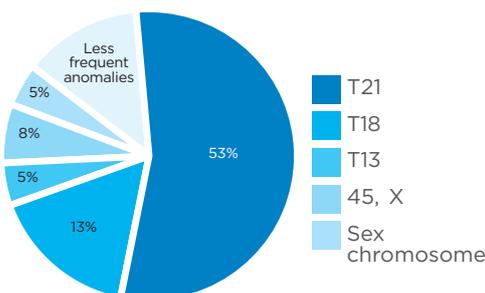
*Foetal sex information is not provided in the case of twin pregnancies.

What abnormalities does NACE® detect?

❖ **21, 18, 13, X, Y**

- Down's, Edwards', and Patau syndromes respectively.
- 80% of all chromosomal abnormalities detected in invasive prenatal diagnostic tests².

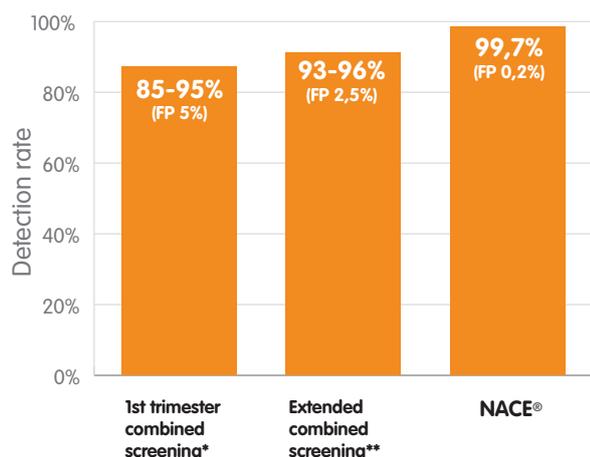
Coverage of the NACE® test for single pregnancies ordered by their importance



According to data from the 2012 European Registry for Prenatal Diagnosis³, abnormalities in chromosomes 21, 18, and 13 represent 71% of all chromosomal abnormalities detected.

With NACE®, blood can be taken from Monday to Friday.

Detection rate according to the type of screening (T.21)



* Includes maternal age, nuchal translucency measurement, and the detection of the PAPP-A and free B-HCG biochemical markers.
** Includes other ultrasound markers: nasal bone absence, assessment of the ductus venosus, and tricuspid blood flow. (FP = false positives).

References: Nicolaidis KH. Screening for fetal aneuploidies at 11 to 13 weeks. Prenat Diagn 2011; 31:7-15.

***NACE® Results in 3 working days after receiving the sample**

Why a non-invasive prenatal test?

When only a biochemical screening is performed:



❖ Unnecessary concern

Out of every 20 women who test positive for Down's syndrome after biochemical screening, only one will be carrying a baby with Down the disease.



❖ False sense of security

Out of every 20 women carrying a baby with Down syndrome, 3 will test negative by biochemical screening.

What is NACE[®] Extended 24?

- ❖ NACE[®] Extended 24 has the same characteristics as the NACE[®] test, **but is an extended version that also incorporates the detection of all chromosome trisomies**, and **identifies six microdeletions which are associated with serious genetic syndromes**.
- ❖ It is validated for **single pregnancies** with a gestational age of **at least 10 weeks**.
- ❖ Guidelines from the European Society of Human Genetics and the American Society of Human Genetics state that further analysis of microdeletions should be indicated **only in cases of certain ultrasound abnormalities** since, in some cases, manifestations can be mild or moderate, making genetic counselling difficult.⁵



Microdeletions

Microdeletions are small losses in chromosomal material which can lead to serious genetic syndromes. The majority occur by chance, without a family history or other risk factors such as advanced age. These syndromes are generally associated with intellectual disability and malformation of different organs.

The NACE[®] Extended 24 panel of microdeletions provides clinicians with a new option for a non-invasive screening in certain clinical situations.

The NACE[®] Extended 24 panel of microdeletions has been validated with clinical samples and real analyses. The optimized algorithm deals with the complexities of these specific chromosomal regions to provide accurate answers about the loss of genetic material. The result is overall better performance, including a low false-positive rate in comparison with other tests and the lowest failure rate in the sector for this type of assay.⁴

Syndromes detected by NACE[®] Extended 24

- 22q11.2 syndrome (DiGeorge syndrome, Velo-cardio-facial syndrome)**
- 1p36 deletion syndrome**
- Angelman syndrome* (15q11.2 deletion syndrome)**
- Prader-Willi syndrome* (15q11.2 deletion syndrome)**
- Cri du chat syndrome (5p- syndrome)**
- Wolf-Hirschhorn syndrome (4p- syndrome)**

* The microdeletion region is the same for Angelman and Prader-Willi syndromes (15q11.2). The NACE[®] Extended test cannot distinguish between these two syndromes. An additional test is required to confirm the syndrome in question.

Result delivery time for the Nace[®] Extended 24 test is 15 days

1. Non-invasive prenatal fetal aneuploidy test. Opinion n° 545 of the Committee of the American College of Obstetricians and Gynecologists, Obstet Gynecol 2012; 120:1532-4. In December 2012 the Committee of the American College of Obstetricians and Gynecologists recommended non-invasive fetal-DNA based tests as one of the options that could be used for primary screening in women with a high risk of aneuploidy, and for women with a positive screening test result in the first or second trimester. 2. Wellesley et al. 2012; Eur J of Hum Gen. 11 January 2012. 3. Chui et al., BMJ 2011;342:c7401. 4. Das Chakraborty R, Bernal AJ, Schoch K, Howard TD, Ip EH, et al. (2012) Dysregulation of DGCR6 and DGCR6L: psychopathological outcomes in chromosome 22q11.2 deletion syndrome. Transl Psychiatry. 2: e105. doi:10.1038/tp.2012.31. 5. European Journal of Human Genetics advanced online publication 18 March 2015; Non-invasive prenatal testing for aneuploidy and beyond: challenges of responsible innovation in prenatal screening.