neoBona®

The new generation of non-invasive prenatal testing

Combined screening detects common chromosomal abnormalities in the fetus during pregnancy. This type of screening primarily focuses on the detection of Down Syndrome (T21) and Edwards Syndrome (T18), with a sensitivity of 85-90% for the detection of Down Syndrome, and a false positive rate of 5%.

Invasive testing was previously the only option to study the fetus's DNA to detect possible alterations, but these tests involve a risk of miscarriage.

Technological improvement in DNA analysis has led to the development of non-invasive prenatal testing (NIPT) based on the study of fetal cell-free DNA in maternal blood, enabling the study of different chromosomal conditions with greater sensitivity and no risk for the mother or the fetus.

neoBona

neoBona is the new generation of non-invasive prenatal testing result of the experience of LABCO, leader in prenatal diagnosis and the technology of ILLUMINA, world leader in DNA sequencing and analysis.

LABCO is pioneer in introducing non-invasive prenatal screening in Europe, and with **neoBona** LABCO integrates the most advanced NIPT technology.

The new sequencing technology enables a more comprehensive analysis of the cell-free DNA present in the mother's blood, also including the **fetal fraction** (percentage of fetal cell-free DNA related to the total amount of cell-free DNA present in the mother's blood) for a more precise result.

Chromosomal alterations detected

neoBona analyzes a blood sample from the mother to determine the risk of numerical chromosomal abnormalities in chromosomes 21, 18, 13 and sex chromosomes (X, Y) in the fetus. There is also the possibility to include the analysis of trisomies 9 and 16, together with a panel of 5 microdeletions.

There are three options of analysis:

- **neoBona:** analysis of chromosomes 21, 18 and 13 with the option of determining fetal sex. Available for single and twin pregnancies. In case of twins, if the "fetal sex" option is chosen, the presence of chromosome Y is analyzed, if detected, it means that at least one of the fetuses is a male. It includes the fetal fraction.
- **neoBona Advanced:** analysis of chromosomes 21, 18 and 13 with fetal sex and analysis of the sex chromosomes. Only available for singleton pregnancies. It includes the fetal fraction.
- **neoBona Advanced+:** analysis of chromosomes 21, 18, 13, X and Y, as well as chromosomes 9 and 16 together with a panel of microdeletions that includes DiGeorge, Angelman, Prader-Willi, deletion 1p36, Wolf-Hirschhorn and Cri-du-chat Syndromes. This option is only available for singleton pregnancies and does not report the fetal fraction.

neoBona analyzes aneuploidies and fetal sex with the certainty of the European leader in prenatal diagnosis.

Scientific background of neoBona

neoBona prenatal test analyzes the fetal cell-free DNA in the mother's blood using massive sequencing techniques.

The test includes new DNA sequencing technology with paired-end reads instead of simple reads, improving the accuracy of the analysis and the differentiation between cell-free DNA of fetal and maternal origin, compared with other tests available on the market.

The fetal fraction is a crucial parameter that affects the accuracy of the analysis, leading to false negative results in samples with low fetal fraction. **neoBona** reports this parameter with high precision.

Advantages:

- ✓ Next generation technology
- ✓ Experience of the European leader in prenatal diagnosis
- ✓ Largest European network of blood sampling centers
- ✓ Analysis of the fetal fraction
- ✓ Confirmation of results consistent with aneuploidies in chromosomes 21, 18, 13, X and Y
- ✓ Genetic counselling for the specialist

Indications

Pregnant women with at least **10 weeks gestational age**, in the following situations:

- Single or twin (two fetuses) pregnancy
- IVF pregnancies
- Cases of egg donation

The test must be prescribed by a specialist.

Requirements

Sample: Specific kit provided by the laboratory. Store and send at room temperature.

Documentation: Specific test requisition and informed consent form.

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LABCO Quality Diagnostics

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