

In just four years

NEOCODEX OWNS SEVEN BIOMEDICAL PATENTS

Neocodex, which has the largest DNA Bank in Spain with almost 15, 000 anonymous samples, currently owns seven patents on cardiovascular risk, osteoporosis processes, menopause, pharmacogenetics and one of its latest innovations, a new tool for identifying genes associated with common diseases.

Madrid, October 2006

Neocodex, a company located in Seville and created in 2002, has the largest DNA Bank in Spain, with almost 15,000 anonymous samples. The company currently owns 10% of the biomedical patents in Andalusia and hopes to increase this figure to 50% within the next two years. The DNA Bank is used to identify factors which have an influence on the development of diseases. This information is then used to create patents for treatment and develop new ones on methods aimed at molecular diagnostics in common diseases and the development of predictive response markers to different therapeutic guidelines.

Neocodex has some patents registered for cardiovascular risk, osteoporosis processes, menopause and pharmacogenetics. More resources are dedicated to the latter since, according to Luis Miguel, Neocodex's Technical Director, "laboratories are committed to develop medicines that are almost made to measure according to each patient to ensure greater efficacy, rather than applying standard treatments as is the case today".

Neocodex currently owns three patents related to the use of genetic markers of the calpain-5 gene as an in vitro diagnostic method for Polycystic Ovary Syndrome (PCOS) or the predisposition to suffer from this condition, as well as the predisposition to suffer from certain pathologies frequently associated with PCOS and which constitute an increased cardiovascular risk. This condition is characterised by the presence of chronic anovulation and irregular menstrual cycles. Based on the results of a study of women with PCOS, these polymorphisms have been analysed in relation to cardiovascular risk among the Spanish population. It was found that polymorphic variants of the calpain-5 gene constitute a diagnostic tool for the appearance of alterations related to cardiovascular disease, not only in risk groups such as women with PCOS, but in the general population also.

Neocodex has also developed two patents for the use of genetic markers for assessing the predisposition to suffer from ovarian dysfunction; more specifically, a dysfunction related to the ovulatory function. This refers to the detection of different genetic markers in the BMP15 gene. Moreover, the patent confirms a genetic marker as a molecular and independent predictor of menopausal age in women. It is determined by the level of exposure to natural oestrogen throughout the woman's lifetime. This exposure to oestrogen appears to be closely linked to the risk of developing serious diseases during menopause, such as breast cancer, osteoporosis, depression or cardiovascular disease.



Neocodex has created a patent for a method and device to diagnose the predisposition to suffer from idiopathic male infertility. This is based on detecting the deletion of the ESR1-NCD1 gene in the DNA of the individual concerned. Neocodex has identified an alteration in the oestrogen receptor alpha gene (ESR1) which is related to male infertility. Infertility affects 1 out of 10 couples throughout the world; however its frequency varies between 5% and 30% in different countries. In 51.2% of infertile couples, the inability to conceive originates in the male. However, in 40-60% of infertile males, the only abnormality detected is in the reduction of their sperm quality. These individuals present idiopathic infertility or of an unknown cause.

Finally, Neocodex has created a patent known as HFCC. This is a new tool for identifying genes associated with diseases. It allows the more rational interpretation of millions of genetic markers, drastically reducing the analysis time in whole genome research, while also offering great precision and employing far fewer individuals in the studies, thus significantly reducing the cost by more than 70%. It allows 100,000 markers to be analysed simultaneously in less than six minutes, reaching speeds greater than one million two hundred thousand comparisons per second.

Neocodex is a biotechnological Research and Development company working within the field of human genetics. Through biomedical research, Neocodex hopes to develop new diagnostic methods and therapies applicable to the field of human health. Using genomic and molecular research tools it identifies therapeutic targets and genes involved in different human pathologies such as cancer, schizophrenia, diabetes and osteoporosis.

It is the largest Spanish company with a DNA Bank with anonymous and surplus samples associated to a Database. The main objective is to develop integral research programmes which make use of the aforementioned Bank and which allow to obtain intellectual property for the molecules developed, which ultimately result in the promotion of new methods for diagnosing and treating the diseases being studied.