CIC bioGUNE and Proteomika create the largest catalogue of proteins from endometrial fluid

Researchers from the Cooperative Research Centre in Biosciences, CIC bioGUNE and from a Basque company Proteomika have published the most comprehensive proteomic characterisation of aspirated endometrial fluid that has been managed so far. This will allow scientists to make advances in new early-diagnosis tests with non-invasive techniques, for diseases such as endometriosis, which is common in the female population (it affects 10% of women)[1].

This research, led by the head of the Proteomic Platform of the CIC bioGUNE, Félix Elortza, was published recently in the prestigious scientific publication *Journal of Proteome Research*. It is the most extensive proteomic study of this biofluid of the many that have been carried out, and enables the identification of 803 proteins. The results may be of great use to future research related to early diagnosis and the design of experiments that will measure biomarkers of the different endometrial alterations that affect women.

The endometrium is the mucous membrane that covers the lining of the uterus and its function is to house the zygote after fertilisation, allowing for its implantation. There are various different endometrial diseases, but one of the most common is endometriosis, an illness in which endometrial tissue grows outside the uterus causing intense pelvic and menstrual pain, sometimes even leading to infertility.

The study assumes that the different alterations that the endometrium may undergo leave their own molecular trail at protein level in the endometrial fluid. Therefore the in-depth breakdown of this biofluid's constituents may lay the foundations for developing diagnostic tests without the need for a biopsy.

This study, started in 2008 and carried out in collaboration with the Basque company Proteomika, took as its basis samples provided by the Hospital of Cruces in Bizkaia and the IVI Foundation (The Valencian Institute of Infertility in Bilbao and Madrid). Proteomika selected various high quality samples given to them by these medical centres and processed them, to run them later on the

[1] Data published by the Spanish Endometriosis Association

one- and two-dimensional gels, so that they could select the spots (proteins) for subsequent analysis in CIC bioGUNE.

According to the head of the Proteomic Platform of the centre, Félix Elortza, “the proteome can be defined as the set of proteins expressed by a cell, tissue or organism at any one time. In biomedicine, and more particularly in the field of diagnosis, it is vitally important that obtaining of the sample should be as little invasive as possible. To manage this, we are investing our time in the molecular characterisation of different biofluids (blood, urine, tears etc.)”.

-Links:

-CIC bioGUNE (Paragraph 1, lines 1-2)

http://www.cicbiogune.com/

-Proteomika (Paragraph 1, line 2)

http://www.proteomika.com/

-Journal of Proteome Research (Paragraph 2, line 3)

http://www.ncbi.nlm.nih.gov/pubmed/19670903?ordinalpos=1&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_DefaultReportPanel.Pubmed_RVDocSum