# Diagnostic for Endometriosis and other Inflammatory Diseases

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## Technology description

Researchers at UC San Diego, Dr Sanjay Kumar Agarwal, and McMaster University, Dr. Warren Foster, Jocely Wells and Dr. Nick Leyland, have discovered a unique preferred combination of biomarkers in blood and endometrial cells for diagnosing endometriosis and progression of other inflammatory diseases. One of the markers, brain-derived neurotrophic factor (BDNF), is elevated in plasma of endometriosis patients.

Endometriosis is a common gynecological disorder that occurs when endometrial cells from the uterus grow ectopically resulting in endometrial tissue implants. Endometrial tissue implants may occur on the ovaries, bowel, rectum, bladder, on lining of the pelvic area and other locations. Unlike endometrial cells located in the uterus, tissue implants remain following menstruation and may continue to grow during successive menstruation cycles. Endometriosis may lead to pain, irregular bleeding and infertility. Endometriosis may be diagnosed between ages 25 – 35, but the condition may also initiate about the time when regular menstruation begins. As symptoms are not always evident, early diagnosis may assist with improved treatment outcome. The current gold standard for diagnosing endometriosis is invasive laparoscopy visual inspection, preferably with histological confirmation. There is a need for non-surgical or minimally-invasive diagnostic methods. Accordingly, biomarkers for endometriosis may be useful alternatives to monitor progression of this disorder, or to tailor treatment to achieve optimal medical management of the disease.

## Application area

Possible commercial applications include a new non-surgical diagnostic method for assessing and monitoring endometriosis. A diagnostic test may use a simple blood sample alone or together with collected endometrial cells during menstruation.

## Institution

University of California, San Diego

Inventors

Nick Leyland
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