Biomarker for Non-invasive Colorectal Cancer Screening

PROTECTION

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BACKGROUND

Colorectal cancer (CRC) is the second most common cause of cancer mortality in developed countries. The detection of polyps in precancerous phases can reduce incidence and mortality by CRC by 30% and 50%, respectively. Currently, colonoscopy is the most accurate test for the early detection of CRC, but it has the disadvantage of causing a low level of adherence of patients to these risk exams because of the discomfort of the test and its preparation.

The social rejection of colonoscopy added to the low sensitivity of current non-invasive biomarkers for the early detection of colon cancer requires the identification of new non-invasive biomarkers with greater sensitivity and specificity.

In this aspect, metabolomics has opened new opportunities to identify these biomarkers, and also understand the mechanisms involved in the development of physiological and pahtological processes.

ACHIEVMENTS AND RESULTS

A metabolomic signature with a **high diagnostic accuracy** for **colorectal cancer (CRC)** and **advanced adenomas (AA) detection** has been developed. These **metabolic markers** selected are significantly differentiated between patients with normal colonoscopy and CRC or AA patient, and/or between CRC and AA. These metabolic markers can thus be used in **a non-invasive screening, diagnostic or monitoring method** identifying and classifying patient with **CRC and/or AA.**

The present invention provides a **novel method of screening** and / or diagnosing both **precancerous (advanced adenoma) and CRC** phases, based on the determination of the **level** of certain **metabolic markers** in a **stool sample** of the patient.

PURPOSES AND ADVANTAGES

Type of invention: Diagnostic Tool

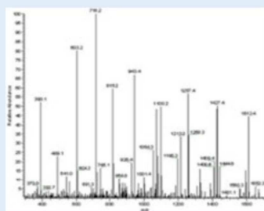A simple, low invasive test with high sensitive for both colorectal cancer and advanced precancerous lesions.

- **Non-invasive method**

- **Early diagnosis of the disease in precancerous phases**

- **Greater sensitivity and specificity than the only CRC biomarker available in the daily practice (f-hemoglobin concentration measured with a quantitative immunological test).**

Stool Sampling → Metabolite Analysis → Predictive value of biomarkers
High risk
Specificity 85%
Sensibility 87%
Low risk

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COLLABORATION OFFER

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