

# Biomarker for Non-invasive Colorectal Cancer Screening

## Background

Colorectal cancer (CRC) is the third most common malignant neoplasm worldwide in men (746,000 cases, 10.0% of the total) and the second in women (614,000 cases, 9.2% of the total) worldwide. CRC incidence declined by 3% per year among adults aged 50 years and older. Screening tests like sigmoidoscopy and colonoscopy have become routinely performed for prevention, however, because of the complications, false negative and the preparation needed before taking the test cause low adherence in the population to the existing screenings. In addition, these techniques may miss flat or non-polypoid lesions accounting for 11% of all superficial lesions (10 times more likely to contain in situ neoplasia or invasive cancer).

**Current Options.** New tools under development are: 1) Fecal Occult Blood Tests; 2) CRC DNA Screening Tests; 3) Guaiac FOB Stool Test; 4) Immuno-FOB Test; 5) Tumor M2-PK Stool Test; 6) Panel DNA Tests.

## Unmet Medical Need

Prevention of CRC have been instrumental to decrease incidence of CRC as well as increase therapy efficacy because of early diagnosis, leading to a reduction of CRC incidence by 3% for men aged over 50 years, but for adults younger than 50 years, incidence rates have been increasing by about 2% per year. Many test have been developed to overcome reduced adherence and non-invasiveness of procedures. These methods may require diet changes, colonoscopy will be needed to if results are abnormal, could produce false-positives and may miss many polyps and some cancers.

## Technology

It refers to specific cholesteryl esters alone or in combination with other biomarkers, such as fecal occult blood or at least one metabolic marker like Phosphosphingolipids, Triacylglycerols and Glycerophosphoethanolamines to be used for identification of early colorectal cancer lesions.



## Application

Out technology relates to metabolic markers as a screening, diagnostic or monitoring tool for detecting colorectal cancer (CRC) and/or advanced adenoma (AD) in a patient. It can be used to identify cancer biomarkers in feces (already tested) and possibly blood as Early Colorectal Cancer Screening Test.

## Advantages

- No invasive method (identification in feces)
- Adaptable to conventional metabolomics machines and softwares
- Pre-development Specificity (true negative rate) 85% and Sensibility (true positive rate) 87%

## Patent Status.

**Priority Date:** 11 May 2017; **Title:** Biomarker for Non-invasive Colorectal Cancer Screening. **Inventor:** Joaquín CUBIELLA FERNÁNDEZ, Juan Manuel FALCÓN PÉREZ, Luis BUJANDA FERNÁNDEZ DE PIEROLA.

## State of the Technology.

R&D

## Need.

Licensee/Codeveloper

## Contact

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