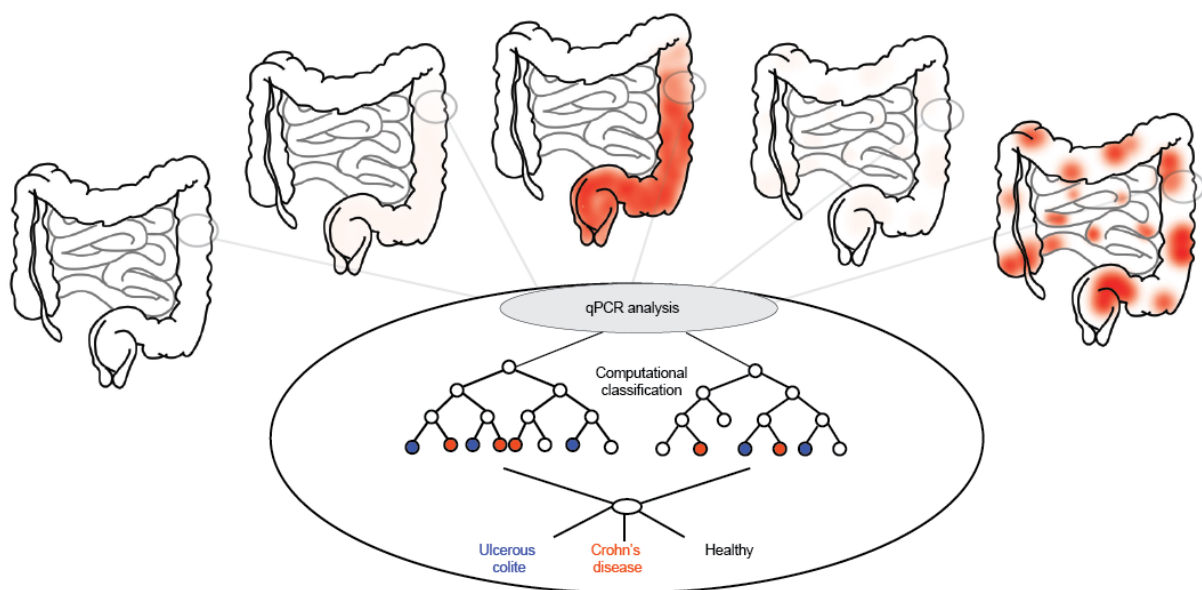


# IBDetect™: RNA-based diagnosis of inflammatory bowel disease

A quick and cost-effective route to accurate diagnosis and treatment of  
ulcerative colitis and Crohn's disease



## Background

Inflammatory bowel disease (IBD) is a chronic and common inflammatory disorder of the human gut, affecting about 1 in 250 Europeans. The main types of IBD, ulcerative colitis (UC) and Crohn's disease (CD), require different pharmaceutical and/or surgical treatments. So, accurate subtype diagnosis is crucial.

Today, diagnosis is usually based on a visual examination of the gut and histological examination of gut biopsies. This is in many cases difficult: about 15% of IBD patients are not classifiable. On top of that, there are many cases where the initial diagnosis is wrong. So, there is a clear need for additional diagnostic tools: both for diagnosing the most difficult 15% of patients and to increase the accuracy of any IBD diagnosis.

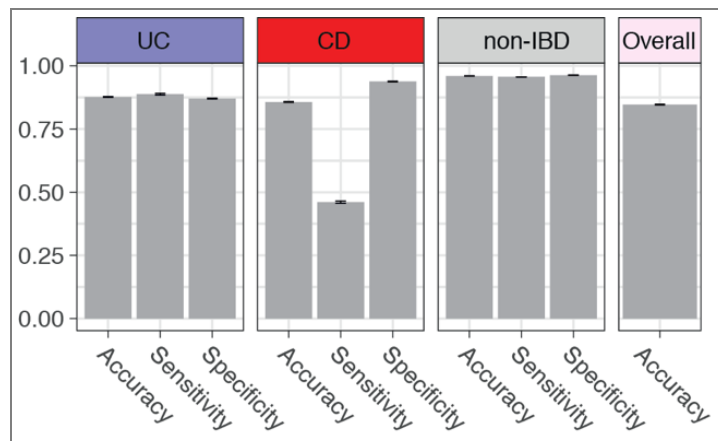
## The invention

IBDetect™ uses quantitative polymerase chain reaction (qPCR) to determine the relative expression of 35 specific RNA markers in biopsies from the large intestine.

The expression of these markers is analysed by a computer program, which can predict the diagnosis – UC, CD or non-IBD. Trained on a 95-subject large cohort and evaluated on two independent cohorts, IBDetect™ has an overall prediction accuracy of 85%.

The combination of IBDetect™ and current diagnostic methods has the potential to dramatically reduce the number of un- or misdiagnosed IBD patients.

Importantly, there is no additional discomfort or risk for the patient, because the human material needed is taken in parallel with the biopsies used for traditional diagnosis.



IBDetect™-based diagnosis of 101 subjects in a cohort, which was not used in the development of the method. The bar chart shows accuracy, sensitivity and specificity with 95% confidence intervals.

## Key selling points

IBDetect™ is ideal for a ready-to-use diagnostic kit. It will reduce waste of healthcare resources and improve the quality of life for IBD patients.

- It is cheap and easy to implement – qPCR equipment is already widely available at hospitals
- It is quick to use – analysis can be completed within the same time frame as histological examination
- It can significantly increase the quality of IBD treatment without burdening the patient

## Development status

IBDetect™ has been tested on a total of 269 subjects (3 cohorts). The overall accuracy was ≥85% in all tests.

## Intellectual property rights

A priority patent application was filed on 07 July 2017.