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.

**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.