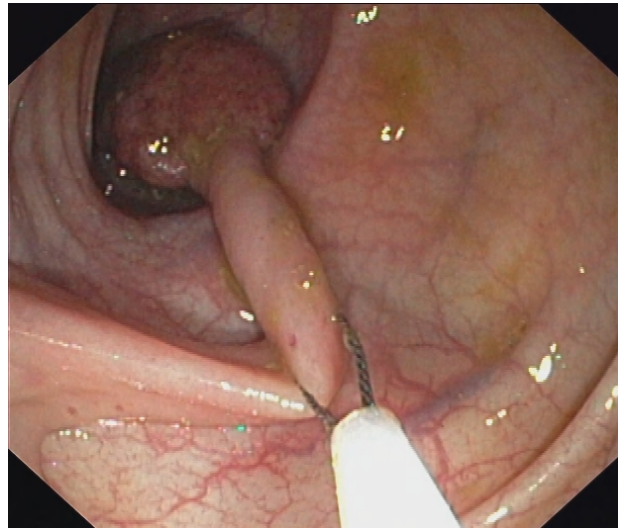


## *A diagnostic marker for early cancer detection*

### Market Sector: Diagnostics



*Fig. 1 Picture of a stalked polyp in the colon recorded with an endoscope. In the future invasive diagnostics of (precursor forms of) cancer in the colon may be partially replaced by a molecular test.*

**Scientists from Leiden University Medical Center have found a DNA marker that is associated with early stage carcinogenesis of colorectal cancer. The invention concerns a DNA marker that is methylated in tumor cells. At this moment several DNA methylation kits are being developed in the field of cancer diagnostics. Not all different forms of cancer can be diagnosed with these DNA methylation kits yet. Early stage diagnostics of cancer is important, because patients who are treated for cancer at an early stage have a higher chance on survival. The found marker has a high specificity and sensitivity and can be included in or developed into DNA methylation kits that are used for non-invasive detection of (pre-symptomatic) cancer such as fecal DNA testing. The found marker has been tested in a collection of samples and the presence of the marker was validated in all tumor tissues.**



**Most cancers involve the epigenetic silencing of genes that normally control cell proliferation. Inappropriate gene silencing can be caused by epigenetic modifications such as DNA methylation and histone deacetylation. DNA methylation is a stable chemical modification of the DNA molecule that can be detected with cost-effective and sensitive assays. Methylation can be specific both for the cancer state and for the type of cancer.**

### **Keywords**

Carcinogenesis, Cancer, Human Health, Diagnostics.

### **Key Benefits**

- Early stage diagnostics of cancer.
- Unique marker for colorectal cancer.
- Non-invasive technology.

### **Current study**

The scientists are developing a methodology to analyze methylation of DNA in stool samples, and are gathering more evidence on the sensitivity and specificity of the found marker. The sensitivity of the test at this moment is 94% and the specificity of the test is 94-100%. The test can be performed in 2-3 days.

### **Patent / IP Status**

Premier depot filed in 2007.

### **Applications**

Diagnostic DNA testing kits.

### **Commercial Partner**

Biotechnological and pharmaceutical company with expertise in diagnostics applications. The scientists are open towards research collaboration.

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Leiden University Medical Center (LUMC) is strongly committed to the advancement of health care, through research and innovation. In particular, the focus is on translational research, with the overall aim to accelerate transfer of findings from the laboratory to clinical application, and to the market.

LUMC has a reputation as a pioneering institute in its field, both nationally and internationally.