

Reliable noninvasive biomarkers for early detection of colorectal cancer (P-1371)

Key facts

- Protein and autoantibody marker panel for diagnosis and stratification of colorectal cancer
- Based on a cohort of screening colonoscopy participants of the BliTz study between 2005-2014, including approx. 7,197 participants
- Five marker panel with high sensitivity for detecting early, all-stage stage CRC and advance adenomas.

Abstract

Sigmoidoscopy and colonoscopy, the current gold standards for detection of CRC in the distal and total colorectum, respectively, are limited by several disadvantages, such as high costs, limited resources and poor compliance. So other cost-effective and sensitive methods for the early detection of colorectal cancer are urgently needed and very important from the health economic standpoint. Using blood samples the invention offers a protein and autoantibody set that can be used as a diagnostic tool for diagnosis and stratification and/or monitoring of a therapy of colorectal cancer.

The Technology and Development Stage

Using biological (blood) samples from a screening colonoscopy a core panel of 4 proteins and an autoantibody (AREG, GDF-15, FasL, and Flt3L +anti-TP53) had the sensitivities for detecting early stage CRC and advance adenomas of 66.7% and 31.7% at a specificity of 80%, and the AUC of 0.82 (95% CI: 0.74-0.90) for detecting all-stage CRC. At 90% Specificity the panel had sensitivities of 56% for CRC and 22% for adenomas.

Applications and Commercial Opportunity

DKFZ is looking for a commercial partner for further development of the marker panel alone or in combination with other markers towards clinical application

Inventors

The inventors are: Hongda Chen and Hermann Brenner from DKFZ

Scientific Reference:

“Development and validation of a panel of five proteins as blood biomarkers for early detection of colorectal cancer” by H. Chen, J. Qian, Simone Werner, K. Cuk, P. Knebel, and H. Brenner published in [Clin Epidemiol.](#) 2017; 9: 517–526.

Intellectual Property

A priority patent application “Mixed protein and autoantibody biomarker panel for diagnosing colorectal cancer” EP 17190007.9 has been filed at the Europe Patent Office September 7, 2017.

Further Information

No other public information is currently available, but further information (speaking with the inventor) is available under a signed Confidential Disclosure Agreement (CDA).

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