

TECHNOLOGY OFFERS

Prognostic Methylation-based Classifier for Non-Metastatic Colorectal Cancer (ProMCol) (P-1348)

A robust method for determining a survival probability to guide treatment decisions for colorectal cancer patients

EXECUTIVE SUMMARY

This technology is a robust method for determining a survival probability of those suffering from colorectal cancer. It involves gauging the methylation status of certain biomarkers. The combination of the novel ProMCol classifier and standard clinical parameters can predict patients' prognosis considerably more accurately than clinical parameters taken alone. The DKFZ classifier (ProMCol) allows predicting disease specific survival of colorectal cancer patients. This can guide treatment decisions and therefore avoid unnecessary side effects associated with chemotherapy, if the survivability prediction is positive.



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Category

Prognostic

Indication

Colorectal cancer (CRC)

Development stage

Pre clinical

Seeking

Licensing, Development partner

BENEFITS

- Well-validated and accurate survival prediction and treatment guiding method
- Improving quality of life for patients and reducing unnecessary costs
- The method can be used to make lifestyle recommendations.

TECHNOLOGY BACKGROUND

Colorectal cancer (CRC) is the third most common cancer worldwide accounting for 1.36 million new cases annually. Harmful overtreatment of patients with colorectal cancer (CRC) due to imprecise prognosis prediction based on the traditional tumor, node, metastasis system highlights the need of additional prognostic markers. At present, the most accurate means for the prediction of patient survival remains pathological staging according to the tumor-node-metastasis system but it has been recognized that even patients within the same tumor stage display a strong heterogeneity for prognosis and treatment response. Especially for stage II patients there is an ongoing debate if adjuvant chemotherapy should be recommended or not. Current clinical parameters are not sensitive enough to guide doctors' decisions accurately.

DEVELOPMENT STAGE

The method has been revealed by genome-wide methylation analysis and developed and validated in two multicentric study cohorts including together about 800 non-metastatic CRC patients with a median follow up time of 5 years (Gut 2017). It has already been verified in a large independent international study (Gut, 2018) and in DKFZ's actual new CRC study.

APPLICATIONS

This method enables clinical decision making to avoid potential under- or over-treatment of patients. Apart from treatment decision guidance and patient monitoring, the method can be used to make lifestyle recommendations.

INTELLECTUAL PROPERTY

Patent application submitted:

- Priority application was filed at the European Patent Office on 18 October 2017 (EP17197156.7) and a PCT application WO 2019076949 on 17 October 2018.

PUBLICATIONS & REFERENCES

- Gündert M, Edelmann D, Benner A, et al. "Genome-wide DNA methylation analysis reveals a prognostic classifier for non-metastatic colorectal cancer (ProMCol classifier)". Gut 2019;68:101-110.
- Joo JE, et al. "Assessing the ProMCol classifier as a prognostic marker for non-metastatic colorectal cancer within the Melbourne Collaborative Cohort Study". Gut. 2018 Mar 24

DKFZ Contact:

Lana Semykina
Deutsches Krebsforschungszentrum
Innovation Management T010
Email: s.semykina@dkfz.de
Tel.: +49-(0)6221-42-2953
Fax: +49-(0)6221-42-2956

ABOUT THE DKFZ INNOVATION MANAGEMENT

Working at the interface of research and industry, the Innovation Management of the German Cancer Research Center (DKFZ) helps to get new cancer medications, diagnostic tests, and research instruments onto the market as quickly as possible.

The DKFZ with its more than 3,000 employees is the largest biomedical research institution in Germany. At the Center more than 1,300 scientists investigate how cancer develops, identify cancer risk factors and endeavor to find new strategies to prevent people from getting cancer. They develop novel approaches to make tumor diagnosis more precise and treatment of cancer patients more successful. DKFZ is a member of the Helmholtz Association of National Research Centers, with ninety percent of its funding coming from the German Federal Ministry of Education and Research and the remaining ten percent from the State of Baden-Württemberg