



DIAGNOSTIC PROGNOSTIC TEST FOR PATIENTS SUFFERING FROM AN EARLY COLORECTAL CANCER SIMPLIFYING THE SELECTION OF PATIENTS FOR POSTOPERATIVE CHEMOTHERAPY

Product description

Colorectal cancer is one of the most deadly cancers and second most malignant cancer in Europe in terms of morbidity. 180,000 Europeans are treated surgically for colorectal cancer each year, with one in four patients suffering from a disease form with an increased risk of dissemination. The elaborated molecular-based diagnostic test will enable diagnosing this form of colorectal cancer and appropriate applying of postoperative chemotherapy. As a result of personalization of treatment for patients with early colorectal cancer, it is expected to increase the cure rate of fatal disease, with reduced toxicity of treatment. It is highly probable that amongst patients with colorectal cancer in stages T2N0 and T3N0 there are subgroups with substantially different dissemination risks. At present, however, there is no laboratory test available to isolate them.

Key words

colorectal cancer, microRNA expression, prognostic marker

Legal status of the product

– Polish Patent Office:

Patent application submitted (2016) – entity solely entitled to the invention – Medical University of Gdansk

– European Patent Office:

European patent application submitted (2017) – entity solely entitled to the invention – Medical University of Gdansk

The aim of the offer

Subject of the offer is to develop the useful, diagnostic (prognostic) test for patients with early colorectal cancer which will facilitate the selection of patients for postoperative chemotherapy.

Foregoing funding of studies on the product

NCN grant (2011/03/b/nz5/00519) entitled "MicroRNA expression profile as a factor associated with colorectal cancer dissemination in pT2-4N0 advancement stage".

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Analysis of competition on the market

Approximately 450,000 colorectal cancer cases are diagnosed in the European Union each year, 17% of whom are patients with stage I (encompassing patients with T2N0) and 22% of patients with stage II (encompassing patients with T3N0). Several competitive solutions are available on the market, such as the Oncotype Dx Colon™ polygenic test, which predicts recurrence of disease in patients with colorectal cancer advancement stages I and II, and ColoPrint™ which estimates the risk of tumour recurrence in patients who have undergone surgery based on gene expression in the second degree of severity. Such solutions represent a growing market in the medical sector. The most dynamic growth is observed in the USA, especially in the last few years. Unit prices of similar tests on the market of medical devices range from several hundred to several thousand EURO.

Advantages of the product

At the prototype stage, the capacity of the test to detect early cancer dissemination is very high. The competitive advantage of the proposed invention may stem from the higher value of predicting recurrence of cancer compared to other tests, relatively greater stability of the analysed material (microRNA) compared to those used in competitive solutions of mRNA, generating the test with a unique, homogeneous material and the uniqueness of the test result. The proposed solution, in combination with clinical factors, will ensure a rational choice of therapy for patients according to the risk of dissemination.

The potential for economic implementation seems to be high because the test: is performed in an easily available histopathology material prepared for all patients and based on a technology with a proven use in molecular diagnostics (Real-Time PCR).