

A RAPID METHOD FOR THE DETECTION OF FOOD SPOILAGE



Invention Definition

The present invention relates to a new method for the detection of food spoilage. A method for detecting food spoilage comprising the step of performing ddPCR to detect the presence and number of genes responsible to produce biogenic amines such as putrescine and/or histamine is provided.



Applicant

Istanbul University
-Cerrahpaşa



Inventors

Gürhan Raif Çiftçiöğlü
Gülay Merve Bayrakal

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Examination

Benefits

- The invention reliably detects the presence and number of genes responsible for the production of putrescine and/or histamine that cause food spoilage.
- It prevents food poisoning that may occur with the early detection of food spoilage, material losses caused by food spoilage, and food waste. Thus, food safety is ensured from production to consumption.
- Detects multiple microorganisms that produce putrescine and/or histamine instead of a single microorganism detection thanks to the kit created by the ddPCR method used. Thus, it provides an innovative method by making very fast and precise measurements compared to other known methods.
- The fact that the inventor is the founder of the academic start-up of Inovatif Biotechnology shows that inventor motivation on commercialization.

Market Information

The microbial identification market, utilizing the related invention, is anticipated to reach a market size of \$5.7 billion by 2025, with a compound annual growth rate (CAGR) of 12.2%. Notably, North America and Europe hold the largest market shares in the PCR technology market, a significant component of the microbial identification market. Asian countries, when assessed in terms of market opportunities, emerge as one of the promising regions in this industry.

Target Market

The target audience for this invention encompasses all companies engaged in food testing and analysis activities, including those involved in the production of analysis kits and biosensors. Specifically, companies operating within the specified NACE Codes are considered valuable target clients in this domain.



Areas of Use

The method can be used in the microbial analysis of all foods rich in protein, especially meat, chicken, fish, milk and dairy products and fermented foods.



Nace Code

Activity

71.20.07

Technical test and analysis activities on composition and purity issues

71.20.11

Technical test and analysis activities on food

Commercialization Exceptions

The expectation is to facilitate technology transfer to the target audience companies through patent licensing or transfer. This technology transfer will be supported by university-industry and industry-industry cooperation projects.

As the invention is currently undergoing the registration process with positive examination report, it aligns with the TUBITAK 1702 Patent-Based Technology Transfer Support Program. The customer organization being an SME, the relevant patent falling under a high IPC class, and the invention aligning with the EU Green Deal increases the support rate of TUBITAK 1702. If a potential technology transfer falls within the scope of TUBITAK 1702, the customer organization will have the opportunity to recover 50%-70% of the licensing / transfer costs.

Contact Us

+90 212 691 60 01/1354

kulucka@entertech.com.tr