



RTPCR Kit for Prokaryotic Differential Display

The Challenge: The past decade has been marked by a dramatic increase in the availability of techniques used to identify genes that are differentially expressed in multiple samples. The widely used differential display method was originally developed to detect differential mRNA transcription from only eukaryotic cells. This technique is based on two major steps: 1) reverse transcription (RT), and 2) polymerase chain reaction (PCR). The first step relies on mRNA and a polyadenylation reaction that exclusively occurs in eukaryotic organisms. Therefore, the development of a differential display technique to detect differentially expressed genes in prokaryotic cells would significantly increase the ability to understand and identify genes that play an important role in a wide variety of regulatory pathways in prokaryotic organisms.

UMBI Solution: A UMBI scientist has developed a differential display technique that can be applied to prokaryotic organisms. This technique is based on the use of a novel combination of primers in the reverse transcription reaction. This methodology can be used for development of an RTPCR kit for prokaryotic organisms. The kit includes a set of prokaryotic RTPCR primers and materials, as well as, a “stress” membrane for optimization of E. coli fermentations.

Commercial Applications: A highly sensitive, low cost kit for a single amplification process enabling RTPCR of prokaryotic mRNA

Patent Status: Issued US patent # 6,759,195, pending PCT

Licensing Potential: UMBI is seeking exclusive or non-exclusive licensees to part or all of this technology. The UMBI inventor would welcome the opportunity to collaborate with any licensee to further refine this invention or extend its capabilities.

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