Highly Adaptable Internal Control Nucleic Acid Molecule for Real-Time Polymerase Chain Reaction

Technology Summary

The invention provides a polymerase chain reaction (PCR) internal control system for use in both real-time PCR (also known as kinetic or Q-PCR) and conventional PCR. This flexible system has several novel design attributes that make it universally adaptable for use in virtually any real-time or conventional PCR assay, including RT-PCR and multiplex PCR applications, regardless of the organism/gene/nucleic acid being targeted. It provides the user/assay developer a choice of control product sizes, fluorogenic probe reporting systems, and thermal cycling options, allowing ease of incorporation into various assay formats and instrument platforms. This unique internal control also can be readily incorporated into virtually any existing quantitative multiplex real-time PCR assay.

Potential Commercial Applications

- Internal control kit for use in real-time PCR instruments
- Rapid identification and quantification of organisms based on quantities of DNA or RNA sequences in a sample.

Competitive Advantages

- Adaptable to virtually any real-time or conventional PCR assay
- Adaptable to any existing quantitative multiplex real-time PCR assay

Development Stage: Research Material

Inventors:

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Publications:

- Vickery et al., "Detection and Quantification of Total and Potentially Virulent Vibrio parahaemolyticus Using a 4-Channel Multiplex Real-Time PCR Targeting the *tl*, *tdh*, and *trh* Genes and a Novel PCR Internal Control," published abstract, 103rd General Meeting of the American Society for Microbiology, May 18-23, 2003, Washington, DC.

Intellectual Property:

United States Patent No. 7,728,123 issued on June 1, 2010

Japanese Patent No. 4805158 issued on August 19, 2011

European Patent No. 162532 issued on September 4, 2013 and validated in the United Kingdom, France, Germany, Switzerland, and Ireland.

Product Area: research, polymerase chain reaction, assay

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