

Abstract of Presentation

Presentation Title:

HOPE technique for Quantitative and Qualitative Analyses in Environmental Microbiological Studies

Abstract:

A molecular method termed hierarchical oligonucleotide primer extension (HOPE) has been developed for determining the relative abundance of bacterial 16S rRNA gene among total PCR-amplified 16S rRNA genes. In this method, multiple oligonucleotide primers were designed with the length different from one another by the addition of poly-A(s), and then used to target specific 16S rRNA gene sequences at different taxonomical levels (i.e. domain, phylum, order ... and species). HOPE reactions involved 20-25 thermal cycles and single base extension with fluorescently-labeled ddNTPs. Extended primers are then identified in a DNA sequencer, and their peak areas are quantified based on the fluorescence intensity detected. A ratio relative to that of the higher ranked primer is calculated, and used to determine the relative abundance of interested bacterial targets. In this presentation, I will further illustrate the use of HOPE for rapid and specific determination of *Bacteroides* spp. present in feces and wastewaters.