Research Hotline

UPDATE FROM THE CUTTING EDGE

Oct.-Dec. 2009

The abstracts of the recent research information appearing in Vol.9 No.10-12 of "AIST TODAY" are introduced here, classified by research areas.
For inquiry about the full article, please contact the author via e-mail.

Life Science and Biotechnology

Universal quenching probe system: flexible, specific, and cost-effective real-time polymerase chain reaction method

Application expected to quantitative detection of viruses

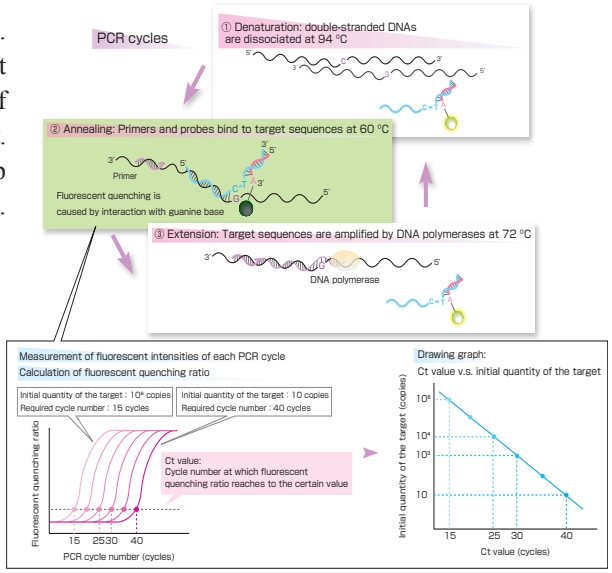
We have developed a flexible, specific, and cost-effective real-time polymerase chain reaction (PCR) method called the universal QProbe system. In this method, a quenching probe (QProbe) and a joint DNA are used. The QProbe is a singly labeled oligonucleotide with a fluorescent dye that is quenched via electron transfer between the dye and a guanine base at a particular position. The joint DNA has the target specific sequence on the 5' side, and the complementary sequence to the QProbe on the 3' side. When the QProbe/joint DNA complex hybridizes with the target in PCR, the fluorescence of the dye is quenched. The amount of fluorescence quenching is proportional to the quantity of the target. This method substantially reduces the cost of real-time PCR setup because the same QProbe can be used for different target sequences. This method can be applied to the quantitative detection of viruses.

Naohiro Noda

Institute for Biological Resources and Functions

noda-naohiro@aist.go.jp

AIST TODAY Vol.9 No.10 p.18 (2009)



Scheme of new method for gene quantification