

## Simultaneous Detection of Epidermal Growth Factor Receptor Mutations using Fluorescence Resonance Energy Transfer

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Epidermal growth factor receptor (EGFR) mutations in exon 19 and exon 21 are important factors to predict the response of tyrosine kinase inhibitors. We developed a novel method that allows simultaneous detection of mutations in both exon 19 and exon 21 of EGFR using FRET phenomena between two types of quantum dots and gold nanoparticles. We detected the presence of mutant type DNA of exon 19, or exon 21 or both from the change in photoluminescence intensity of suspensions.