

A method using a biosensor for measurement of bacterial growth in a closed-ecosystem

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In recent years, piezoelectric quartz systems have been used in analytical chemistry because their oscillating frequencies are sensitive and have wide range. A quartz crystal microbalance (QCM), which is a nanogram mass sensing device, has been applied to determine gases, ions, and some biomolecule. These studies are based on the fact that the resonant frequency change of the quartz crystal corresponds to mass change on the crystal surface.

We have developed a method for simple and precise cell count using QCM. In this study, we measured bacterial growth by the QCM combined an flow cell in real time. This method will also be variable to analyze the behavior of cells in the closed-ecosystem.

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