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Gene Expression Analysis of Embryo with Roche PCR Workflow System

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Recently, PCR techniques have become the useful tools for quantifying the amount of mRNA or DNA in biological samples. Even in a single cell such as an embryo or a blastomere, it is possible to quantify very small amount of genes.

Qualitative as well as quantitative analyses of gene expression are powerful tools providing a wide spectrum of data on the quality of oocytes and embryos. The real-time PCR have used in QC of oocyte, developmental competence of IVF embryos with regard to their sex, embryo metabolism, embryo manipulation and cloning as well as gene expression levels. Especially, the existence and quantification of certain gene can be checked in case of the cloning of somatic cell and nuclear substitution.

The LightCycler PCR System is a very useful mean that analyzes gene expression levels rapidly and sensitively. Using the specific probe, it is possible that a gene of interest is quantified even in a single cell.

Key words) S***ingle cell, Gene expression, Real-time PCR***