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Effect of the cell temperature in the plasma gene transfection[1] YOSHIHISA IKEDA, KUNIMORI MANABE, YUKI ISOZAKI, HIDEKI MOTOMURA, Ehime University, YUGO KIDO, Pearl Kogyo Co. Ltd., SUSUMU SATOH, Y's Corporation, KUNIHIDE TACHIBANA, Osaka Electro-Communication University, MASAFUMI JINNO, Ehime University — The authors study effect of the cells temperature in the plasma gene transfection by changing temperature of the GND electrode from 5 °C and to 55 °C to identify the mechanism of transfection by plasma. By increasing the GND electrode temperature, the transfection ratio increased up to 45 °C and then decreased at higher temperature. The best fitting curve indicates that the optimum temperature for the maximum transfection ratio, which is 1.25 times higher than that at room temperature, is approximately 40 °C. In general, activation of cells will be also maximum around this temperature. Therefore, it is suggested that the cell activation enhances the gene transfection ratio under plasma irradiation.

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