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Investigation of selective induction of breast cancer cells to death with treatment of plasma-activated medium[1] HIROSHI HASHIZUME, HIROMASA TANAKA, KAE NAKAMURA, Nagoya University, HIROYUKI KANO, NU EcoEngineering Co., Ltd., KENJI ISHIKAWA, FUMITAKA KIKKAWA, MASAAKI MIZUNO, MASARU HORI, Nagoya University — The applications of plasma in medicine have much attention. We previously showed that plasma-activated medium (PAM) induced glioblastoma cells to apoptosis. However, it has not been elucidated the selectivity of PAM in detail. In this study, we investigated the selective effect of PAM on the death of human breast normal and cancer cells, MCF10A and MCF7, respectively, and observed the selective death with fluorescent microscopy. For the investigation of cell viability with PAM treatment, we prepared various PAMs according to the strengths, and treated each of cells with PAMs. Week PAM treatment only decreased the viability of MCF7 cells, while strong PAM treatment significantly affected both viabilities of MCF7 and MCF10A cells. For the fluorescent observation, we prepared the mixture of MCF7 and fluorescent-probed MCF10A cells, and seeded them. After the treatment of PAMs, the images showed that only MCF7 cells damaged in the mixture with week PAM treatment. These results suggested that a specific range existed with the selective effect in the strength of PAM.

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