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Effect of medium treated with neutral oxygen radicals on growth of *Saccharomyces cerevisiae*[1] JUN KOBAYASHI, Meijo University, HIROSHI HASHIZUME, Nagoya University, TAKAYUKI OHTA, Meijo University, MASARU HORI, Nagoya University, MASAFUMI ITO, Meijo University — Recently, nonequilibrium atmospheric-pressure plasmas are expected to be applied in medical and agricultural fields. We have studied the growth effect of budding yeast cells in phosphate buffered saline (PBS(-)) using an atmospheric-pressure oxygen-radical source. From a practical application perspective, we have investigated the effect of medium treated with oxygen radicals on the growth of budding yeast in the study. The cells were suspended with yeast extract peptone dextrose (YPD) medium or PBS. The suspensions were treated with neutral oxygen radicals. Oxygen radicals were generated at an $O_2/(O_2+Ar)$ gas flow ratio of 0.6%, a total flow rate of 5 slm, and an exposure distance of 10 mm. To estimate the inactivation and the growth of yeast cells, cells were counted with the colony count method using a counting chamber and a microscope. In the case of budding yeast suspended in PBS, the growth changed from promotion to inactivation with increasing the oxygen radical treatment time. But in the case of budding yeast suspended in YPD, it didn't exhibit promotion and inactivation of the growth with oxygen radical treatment. The results indicated that some substances of YPD scavenged the growth effect of oxygen radicals.

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