E339 Production of Laccase by *Bacillus* sp. LA-1

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From now on, there was reported only one bacterium, *Azospirillum lipoferum*, in which a laccase-type phenol oxidase has been demonstrated. In bacteria isolated from rhizospher of flowering plants on Seokdae-dong, Pusan, laccase activity was observed which correlated with production of dark-brown pigment. Using a combination of substrate/inhibitor specificity tests, extracellular enzyme extracts of isolated strain were clearly demonstrated to have a laccase activity. This isolated strain was identified as a *Bacillus* sp. from the results of its morphological. cultural and biochemical tests. This strain did not have tyrosinase activity. Optimum laccase producing condition was 0.05% maltose, 2% yeast extract, 0.2% KH_2PO_4, 0.005% $CuSO_4$, initial pH 5.5, optimum temperature 30℃ and aeration. An extracellular laccase of *bacillus* sp. was purified by a combination of Amicon ultrafiltration, DEAE-Cellulose ion exchange chromatography and Sephadex G-100 gel filtration chromatography.

E340 Properties of antisporulating substances from *Pseudomonas areuginosa* KMCS-1

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Six fractions of antibiotic substances were separated from the culture filtrate of *Pesudomonas aeruginosa* KMCS-1 by silica gel fresh column chromatography. Among these, two fractions were found to suppress the production of asexual spores in several members of fungi. To asses the effects of these antisporulating fractions, sporulation in *Coprinus cinereus, Aspergillus nidulans, Prycularia oryzae,* and *Rhizopus stolonifer* were tested. Effect of the these fractions on sporulation was assayed at the concentration of 50, 25, 12.5, and 6.25 ㎍/ml. Asexual sporulation was significantly suppressed by these fractions, and the average inhibition rate in *C. cinereus, A. nidulans, P. oryzae* were 98.3, 94.0, and 77.9% respectively. Asexual spores were harvested form *C. cinereus, A. nidulans, P. oryzae,* and *R. stolonifer* which were cultured in the culture plates containing these two antibiotics and their spore germinability was assayed. The results revealed that antibiotic effects of these antibiotics are also effectively extended to the germinability of affected spores. The results indicated that these antibiotics appear to be rather specifically related with antisporulating activity in fungi and thus the substances are under the investigation for the further purification and structural analysis to understand the biological and chemical natures of their active ingradient(s) in relation with fungal sporulation.