

Production of Indigo and its derivatives by *Pseudomonas* sp. BCNU106

¹CHOI Hye Jung, ¹LEE Min A, ²MOON Ja Young, ³KIM Dong Wan, ⁴LEE Young-Gun, ⁵JEONG Young Kee and ¹JOO Woo Hong

¹Department of Biology ² Department of Biochemistry and Health sciences,
³Department of Microbiology, Changwon National University, Changwon, Korea
⁴Department of Food science, Miryang National University, ⁵Department of Life science and Biotechnology, Dong-Eui University, Busan, Korea

Pseudomonas sp. strain BCNU 106 isolated from waste water is excellent indigo producer under organic solvent. It has been reported that strain ST-550 was selected as the most potent producer of indigo and the indole tolerance level of ST-550 was 0.4mg/ml. However the minimum inhibitory concentration of indole was 1.0 mg/ml for BCNU106. Furthermore, BCNU106 has tolerance to more concentration of indole than 200mg/ml in appropriate two-phase system. We investigated conversion of indole in various condition using by *Pseudomonas* sp. BCNU106 and indigo and its derivatives were identified by Mass spectrometry. Conversion efficiency of indigo and its derivatives was also measured quantitatively by HPLC

References

1. Doukyu N. and Aono R. Effects on organic solvents on indigo formation by *Pseudomonas* sp. strain ST-200 grown with high levels of indole, *Biosci. Biotech. Biochem.* **62(6)**, 1075-1080, 1998
2. Doukyu, N., Nakano, T., Okuyama, R., and Aono, R. Isolation of an *Acinetobacter* sp. ST-550 which produces a high level of indigo in a water-organic solvent two-phase system containing high levels of indole, *Appl. Microbiol. Biotechnol.* **58**: 543-546, 2002.
3. Puchalska, M., Polec-Pawlak, K., Zadrozna, I., Hryszko, H., Jarosz, M. Identification of indigoid dyes in natural organic pigments used in historical art objects by high-performance liquid chromatography coupled to electrospray ionization mass spectrometry, *J. Mass spectrom.* **29**;1441-1449, 2004.