

Potential application of cyanobacteria estimated by gene analysis of terrestrial cyanobacterium, *Nostoc* sp. HK-01, in closed-environment

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Cyanobacteria are photoautotrophic organisms and living various environments on the earth. We have been studying space environment tolerance on drought-tolerant cyanobacterium, *Nostoc* sp. HK-01 (NIES-2109, hereafter HK-01). To live under extreme environments for a long time, HK-01 may change gene expression. Here, we closely check genes for extreme environments tolerance in HK-01 whole genome and will show a part of our new results and discussion. We will also discuss potential application of the cyanobacterium in closed ecosystem.

Keywords: cyanobacteria, gene, closed ecosystem