

Growth of a terrestrial cyanobacterium, *Nostoc* sp. HK-01, in the poor nutrient mediums similar to the environment on Mars

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A terrestrial cyanobacterium, *Nostoc* sp. HK-01, has several abilities; photosynthesis, nitrogen fixation, usefulness as food, and space environmental tolerances. HK-01 may be utilized for bio-chemical circulation in closed bio-ecosystems, including Mars. When we introduce HK-01 to the environment on Mars, we need to define the growth of HK-01 in an environment which lacks nutrition. In this study, we tested whether akinetes (dormant cells) of HK-01 grow using components of their dead cells or/and Martian regolith simulant. We will discuss the possibility that colonies of HK-01 can be grown in an environment such as Mars.

Keywords: closed bio-ecosystems, Martian regolith simulant, terrestrial cyanobacterium