

Analysis of proteins involved in processes of desiccation and rehydration in a terrestrial cyanobacterium, *Nostoc* sp. HK-01.

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Nostoc sp. HK-01 is one of terrestrial cyanobacterium having a tolerance to desiccation stress and it has several abilities, photosynthesis, nitrogen fixation and usefulness as a food, it is thought that it can be used for bio-chemical circulation in a closed ecosystem, including space. In this study, we searched for the genes that would play an important role in the desiccation stress response.

Initially, to investigate expression changes of genes in *Nostoc* sp. HK-01 during dehydration, proteins extracted from *Nostoc* sp. HK-01 cells on the way the dehydration were analyzed by SDS-polyacrylamide gel electrophoresis. The cells were dried in a desiccator. Next, proteins extracted from the cells during rehydration were analyzed.

In the course of desiccation and rehydration of the cells, the expression level of some proteins changed. Some of them were insoluble proteins, and others were soluble proteins. These proteins could be involved in desiccation tolerance of *Nostoc* sp. HK-01.

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