

## Draft genome sequence analysis of the extreme environment grown cyanobacterium, *Nostoc* sp. HK-01 (NIES-2109)

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Cyanobacteria are photosynthetic organisms to produce oxygen on the earth for our life. Terrestrial cyanobacteria are living in extreme environment. Isikurage (*Nostoc commune*) is a nitrogen-fixing terrestrial cyanobacterium and living ranging from polar to desert. *Nostoc* sp. HK-01 (NIES-2109, hereafter HK-01) was isolated from crust of Isikurage. Previous reports suggest that HK-01 survives under low vacuum condition such as Mars and that dried HK-01 tolerates for high temperature and high gamma-ray radiation. HK-01 has expected to utilize for space environment. Recently, we determined a draft genome sequence of HK-01. Here, we are trying to analyze HK-01 genes *in silico* and will discuss material cycle and stress tolerance.

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