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## Microbial response to the applied magnetic field

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Biological reactions under magnetic fields should be considered in closed-ecology on planets because the Earth's magnetic field (geomagnetic field). For example, magnetotactic bacteria are oriented along the magnetic field lines of geomagnetic field.

Magnetic fields may induce multiple effects in biological systems, including change in DNA replication or RNA transcription and modification of ion and protein flow across membranes. In recent years, influences of various electromagnetic fields on cell and organisms have been investigated by many researchers. However, the detailed mechanisms in the effects of magnetic field on organisms are still controversial.

In this study, we had focused on influences of the magnetic field (the hundreds of mT range of magnetic flux density) on environmental microbes. Some microbes susceptible to the applied magnetic field have been isolated from the soil. To reveal the species or strain of these microbes and these mechanisms, we investigated changes of these microbial metabolisms by the applied magnetic field individually.

Keywords: environmental microbe, magnetic field