

## Biosafety Clearing-House (BCH)

ORGANISM (ORGA)

BCH-ORGA-SCBD-103095-4 EN DE

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### Organism information

Scientific name

*Thermosynechococcus elongatus*

Taxonomic Classification

Kingdom Bacteria  
Phylum Cyanobacteria  
Class Cyanophyceae  
Order Chroococcales  
Genus *Thermosynechococcus*  
Species *elongatus*

Common name(s)

Cyanobacteria

EN

Type of organism

Bacteria

### Characteristics related to biosafety

Centre(s) of genetic diversity

*Thermosynechococcus elongatus* is a thermophil bacteria that was isolated from hot springs in Japan.

EN

Habitat range

*Thermosynechococcus elongatus* inhabits hot springs. Its has an optimum growth rate at temperatures of approximately 55°C.

EN

Known pathogenicity and/or allergenicity

Adverse effects on human or animal health or on the environment through *Thermosynechococcus elongatus* have not been observed.

EN

Common use(s)

Research

### Additional Information

*Thermosynechococcus elongatus* is unicellular and rod-shaped and is classified as a group I cyanobacteria due to its morphological appearance. As all cyanobacteria *T. elongatus* can perform oxygenic photosynthesis, it is obligate photoautotrophic. However, as a nitrogen storage molecule *T. elongatus* synthesizes cyanophycin, a co-polymer from aspartate and arginine that is catabolized upon nitrogen deficiency. Its most distinct feature compared to other cyanobacteria is its thermophil character.

Other relevant website addresses and/or attached documents

? [Complete genome structure of the thermophilic cyanobacterium \*Thermosynechococcus elongatus\* strain BP-1.pdf](#) ( *English* )

? [Complete genome structure of the thermophilic cyanobacterium \*Thermosynechococcus elongatus\* strain BP-1.pdf](#) ( *German* )

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## Further Information

Questions about the Cartagena Protocol on Biosafety or the operation of the Biosafety Clearing-House may be directed to the Secretariat of the Convention on Biological Diversity.

**Secretariat of the Convention  
on Biological Diversity**

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