

What is PEPCY?

PEPCY stands for **PE**ptides in **CY**anobacteria and is an 11-partner EU project studying the variety of peptides found in cyanobacteria. Some of them – microcystins and nodularins – are known to be highly toxic and may well be the most ubiquitously found hazardous substances in surface waters used by humans. Others are poorly characterised. PEPCY will contribute to filling the knowledge gap about their occurrence, toxicity and human health relevance and help develop a more comprehensive cyanotoxin assessment and risk management strategy.



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Contract number

QLRT-2001-02634

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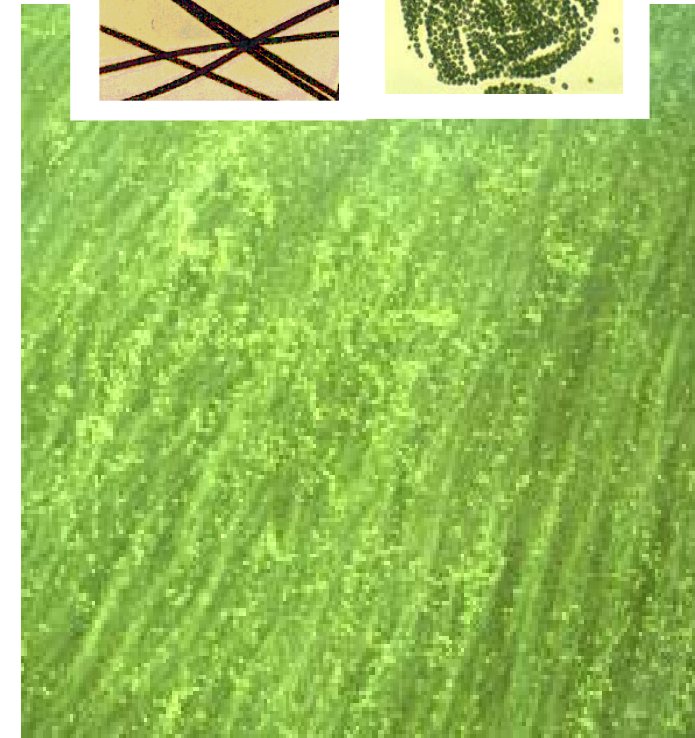
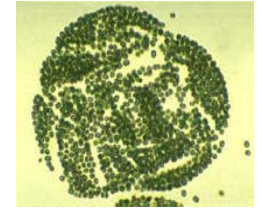
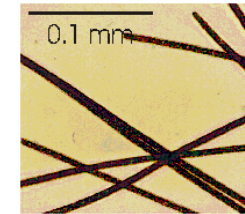
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PEPCY Toxic and Bioactive Peptides in Cyanobacteria



Project funded by the
European Commission
5th Framework Program
Quality of Life

Environment and Health Key Action

Objectives of the work packages

- Work Package 1 provides new molecular genetic and mass spectrometric tools for characterizing genotypes with specific peptides.
- Work Package 2 studies cyanopeptide occurrence in water-bodies, screens for toxicity, and studies factors influencing cyanopeptide production in laboratory cultures.
- Work Package 3 develops methods for quantitative cyanopeptide analysis and grows culture material for toxicity testing of cyanopeptides.
- Work Package 4 tests toxicity of cyanopeptides and investigates by what mechanisms they are toxic.
- Work Package 5 develops the framework for risk assessment and dissemination packages for user groups.



Cultivation of toxic cyanobacteria

Partnerships

Federal Environmental Agency, Berlin, Germany

University of Helsinki, Finland

University of Dundee, United Kingdom

Humboldt University Berlin, Germany

Technical University Berlin, Germany

University of Copenhagen, Denmark

Austrian Academy of Sciences

Norwegian Institute of Public Health, Oslo

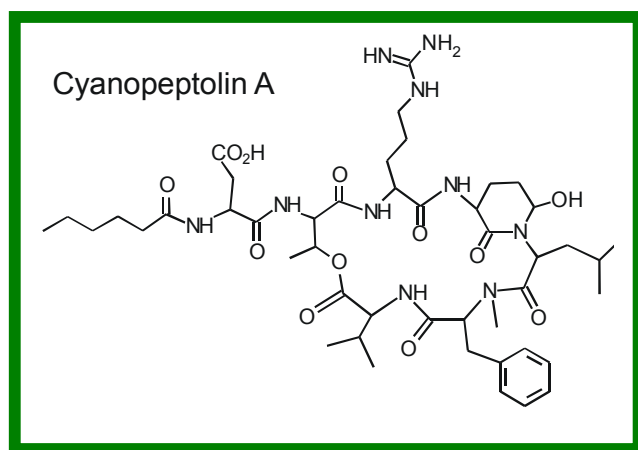
University of Amsterdam, The Netherlands

University of Konstanz, Germany

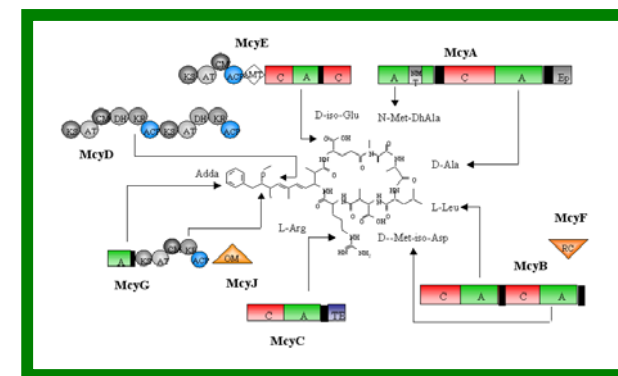
Institut Pasteur, France

Aims and expected applications of results

- Characterize health hazards from peptides in cyanobacteria
- Assess their occurrence in water resources used by humans
- Provide tools for monitoring and surveillance
- Provide a risk assessment framework for environmental health authorities
- Provide information about this health hazard for the general public



Structure of Cyanopeptolin A



Biosynthesis of Microcystin