

Early warning of MIB episode based on gene abundance and expression in drinking water reservoirs

Tengxin Cao^{a,f,g}, Jiao Fang^a, Zeyu Jia^{c,a}, Yiping Zhu^d, Ming Su^{a,b,g,*}, Qi Zhang^e, Yichao Song^d, Jianwei Yu^{a,b,g}, Min Yang^{b,a,g,*}

^aKey Laboratory of Drinking Water Science and Technology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, P.O. Box 2871, Beijing, 100085,

^bNational Engineering Research Center of Industrial Wastewater Detoxication and Resource Recovery, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, P.O. Box 2871, Beijing, 100085,

^cYangtze Eco-Environment Engineering Research Center, China Three Gorges Corporation, Beijing, 100038,

^dShanghai Chengtong Raw Water Co. Ltd., Beiai Rd. 1540, Shanghai, 200125,

^eInstitute of Hydrobiology, Chinese Academy of Sciences, No. 7 Donghu South Road, Wuchang, Wuhan, 430072,

^fSino-Danish College, University of Chinese Academy of Sciences, Beijing, 100049,

^gUniversity of Chinese Academy of Sciences, Beijing, 100049,

Highlights

- Higher light intensity promoted the *mic* gene expression level for *Pseudanabaena*
- Expression of MIB synthesis gene (*mic*) is light dependent in field water
- *Mic* abundance/expression can be used for the early warning of MIB episode

*Corresponding author

Email addresses: mingsu@rcees.ac.cn (Ming Su), yangmin@rcees.ac.cn (Min Yang)