

<b>Title EN</b>	<b>Development of the biological approach for Holmium(III), Erbium(III), and Gadolinium(III) recovery from wastewater</b>
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<b>Description</b>	Rare-earth elements (REEs) are released into the aquatic environment as a result of their extensive use in industry and agriculture, and can be harmful for living organisms. The uptake of gadolinium(III) (one of the most studied REEs), holmium(III), and erbium(III) (two less well-examined elements) by the cyanobacterium <i>Arthrospira platensis</i> was evaluated. According to the results of the neutron activation analysis, <i>Arthrospira. platensis</i> demonstrated a relatively high accumulation capacity for the studied metal ions, which were in the following order: gadolinium(III) > holmium(III) > erbium(III). The accumulation of gadolinium(III) did not provoke a significant impact on the biomass productivity or content of proteins, chlorophyll a, and $\beta$ -carotene. The maintenance of the mentioned parameters on the level of the control biomass indicated the satisfactory physiological state of the culture under the conditions of contact with different concentrations of gadolinium(III). At the same time, important quantitative changes occurred in the content of carbohydrates and phycobiliproteins. The changes in these two parameters in <i>Arthrospira platensis</i> were associated with stress, or at least with a significant external impact. In the cases of erbium (III) and holmium(III), a decrease in the biomass productivity and the content of phycobiliproteins and an increase in the content of carbohydrates indicated the potential toxic effects of lanthanides. <i>Arthrospira platensis</i> can be applied for the remediation of water containing REEs in concentrations that do not cause toxic effects on biomass.