

Title	Process for obtaining of the antioxidant extracts based on natural pigments
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Description EN	<p>The invention relates to microbial biotechnologies, specifically to obtaining of new antioxidant extracts based on pigments from <i>Arthrospira platensis</i> cyanobacteria biomass, a residue from the production of the BioR remedy. The essence of the invention is the proposal of a new process for obtaining antioxidant extracts based on pigments from <i>Arthrospira platensis</i> cyanobacteria.</p> <p>The remaining biomass, dried at the temperature of $+50\pm 5^{\circ}\text{C}$, is ground, and mixed with 96% ethyl alcohol in the 1:10 v/v ratio. The suspension is supposed to sonication (50 W) for 5 minutes or placed in a water bath at the temperature of $+45^{\circ}\text{C}$ for 30 minutes with periodic stirring. At the end of the process, the extract is separated from the biomass by centrifugation at 3500 rpm. for 5 minutes. To obtain of the concentrated extract, the ethyl alcohol is removed using a rotary evaporator.</p> <p>The technical result of the invention consists in obtaining of the antioxidant ethanolic extracts based on natural pigments with a content of β-carotene of 0.645 ± 0.001-0.6875 ± 0.010 mg/100g, with 222-236% more than the closest solution. The extracts have catalase activity of 659.02 ± 13.20-720.14 ± 7.10 mmol/min/mg protein, superoxide dismutase activity of 107.52 ± 20-545.95 ± 1.16 U/mg protein and the concentrated extract contains 14.21 ± 0.020 mg/100g of β-carotene, 0.569 ± 0.001 mg/100g of lutein, 14.243 ± 0.066</p>

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mg/l of chlorophyll a, 442.5 ± 0.58 mg/l of sulfated polysaccharides, total antioxidant activity of $195.93 \pm 9.15\%$ inhibition, catalase activity of 1235 ± 30.59 mmol/min./mg protein, superoxide dismutase activity of 618 ± 2.6 U/mg protein. This process can be used to obtain extracts based on pigments for use in the zootechnical sector, the food industry and cosmetics.

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