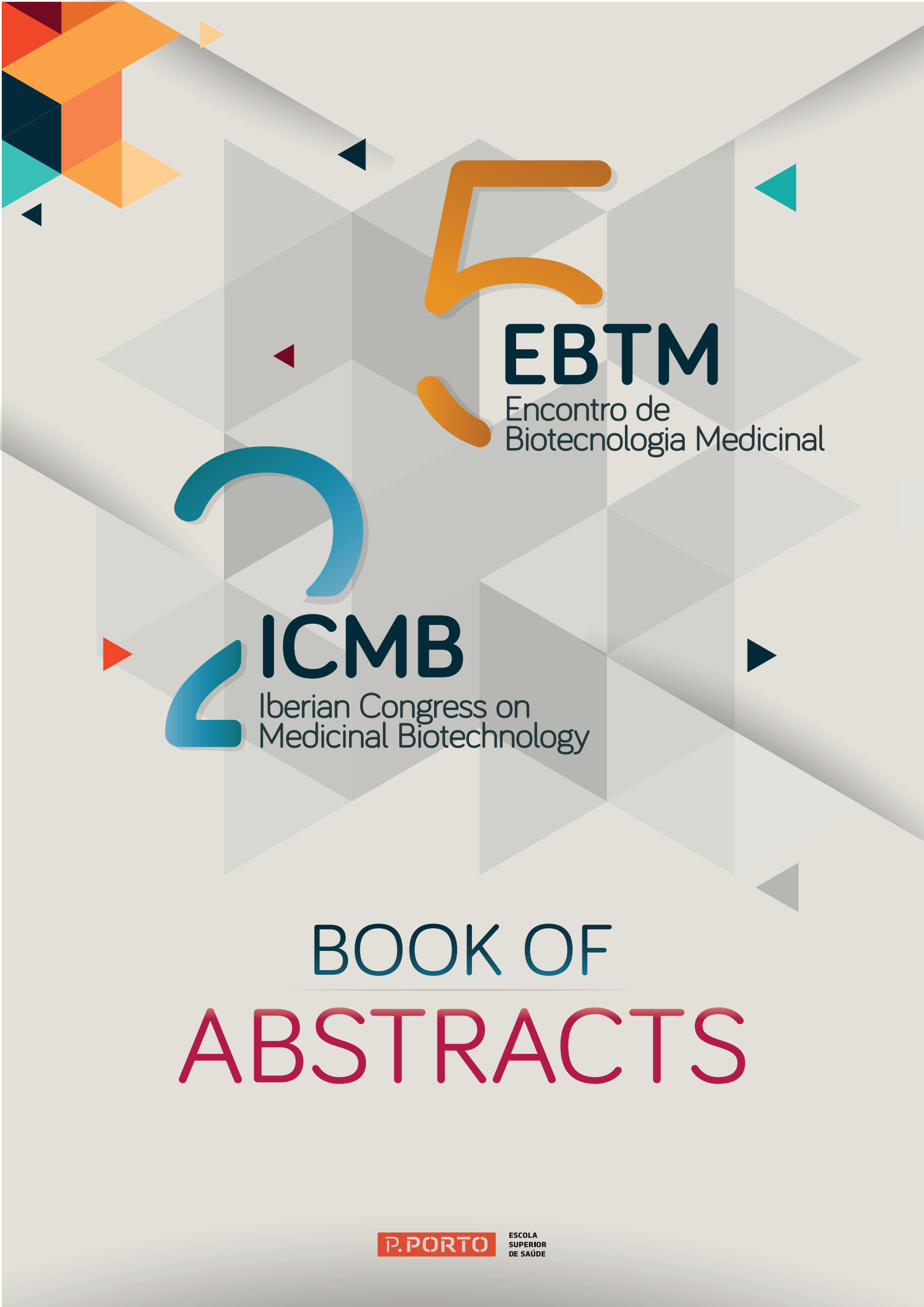




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21<sup>OCT</sup>  
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# Cyanobacteria for skin care and cosmeceutical formulations

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Skin acts as a barrier from external stimulus such as pollutants and ultraviolet radiation. Disturbs in the skin are involved in skin aging, which mostly results on a thinner epidermis, dryness, wrinkles, and loss of elasticity. Synthetic ingredients in cosmetics are known to be more toxic and to cause negative impact on the environment. In a society increasingly worried with human and environment health, natural skin care products gain special attention and boosted the search for natural sources.

Due to the production of bioactive compounds, cyanobacteria emerged as an excellent source for cosmetic ingredients. Cyanobacteria strains of CIIMAR culture collection (LEGE-CC) have already proven to be interesting for cosmetic purposes [1,2]. In this project we aimed to evaluate the potential of four LEGE-CC cyanobacteria strains for skin care purposes. The cytotoxicity of acetonic and aqueous extracts was evaluated in keratinocytes (HaCAT), fibroblasts (3T3L1) and endothelial cells (hCMEC/D3) along with the total phenolic content and antioxidant properties.

Cytotoxic assays revealed toxicity of acetonic extracts to keratinocytes in the higher concentrations tested. Aqueous extracts revealed low or non-cytotoxicity. Mainly in low concentrations of extracts, cellular proliferation was registered. Aqueous extracts from strain JM/RS021A and acetone extracts from strain JM/RS035B revealed higher values for total phenolic compounds. The acetone extracts of strain JM/RS021A showed the greatest scavenging activity values on the DPPH assay.

**Keywords:** cyanobacteria, cosmetics, skin, phenols antioxidant

## References:

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