



International Association of
Scientists
www.iasnetedu.com

Available online at www.jobiost.com

IJBLS 2022; 1(3):117-117



International Journal of
BioLife Sciences

Abstract

C-phycoyanin: A Valuable Combination for the Production of Healthy and Useful Ice Cream

Paniz Abdi Soufi¹, Solaleh Javadi Male², Ali Ahmari³, Nargess Abdali⁴,
Seyedeh Naeimeh Taghizadeh Diva^{5*}

¹ ACECR Institute of Higher Education, Isfahan Branch, Isfahan, Iran

² Department of Biotechnology, Advanced Science and Technology, Tehran Medical Sciences, Islamic Azad University, Tehran, Iran

³ Department of Biotechnology, School of Chemical Engineering, College of Engineering, University of Tehran, Tehran, Iran

⁴ Razi Herbal Medicines Research Center, Lorestan University of Medical Science, Khorramabad, Iran

⁵ Department of Biology, Sana Institute of Higher Education, Sari, Iran

Received: 10 August 2022

Revised: 18 August 2022

Accepted: 15 September 2022

Abstract

Background and aim: Ice cream is one of the most popular desserts. SO fortifications of this dessert can eliminate many of malnutrition. Spirulina (*Arthrospira platensis*) as a protein source with 55-70% protein, can be used as an important food source for ice cream fortification. This study aimed to investigate the effects of phycocyanin on the texture and properties of ice cream.

Materials and methods: In this study, the initial culture of Spirulina was performed in SM, followed by partial purification of phycocyanin (0.05 M sodium phosphate buffer (pH = 7.0)). *Arthrospira* genus accuracy was confirmed by examining fatty acid profiles. Subsequently, C-PC with a concentration of 20mg per 100 cc of milk was added to the ice cream and the prepared ice cream was examined by physical tests of viscosity, pH, and antioxidant power. HPLC and spectrophotometer were used to determine the concentration and purity of C-PC.

Results: The results showed that the prepared powder had a very desirable purity number of 1.55. Also, the results of physical and chemical tests showed that the addition of C-PC did not affect the pH of the ice cream. However, the antioxidant power of the C-PC-added ice cream has increased more than 10 times on average, and the viscosity of the C-PC-added ice cream showed a significant increase in the 5% confidence level.

Conclusion: According to the results of the study, Phycocyanin is a natural pigment that can be used in various products, and its functional properties such as antioxidant properties has significant importance in food industry.

Keywords: *Phycocyanin, Ice cream, Spirulina, Arthrospira platensis*

***Corresponding author:** Seyedeh Naeimeh Taghizadeh Diva, Department of Biology, Sana Institute of Higher Education, Sari, Iran.

E-mail address: naemetaghizadeh7@gmail.com