



Conference Abstract

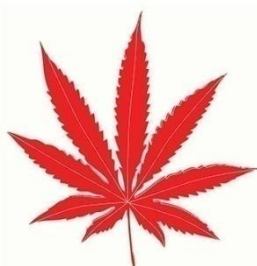
http://dx.doi.org/10.21065/AdvFoodNutriSci.5.2.2020

10th Pak Pharma & Healthcare Expo

International Conference on Pharma, Food & Healthcare

Tuesday –Thursday, February 11-13, 2020

Expo Center, Lahore, Pakistan.



Corresponding author:

Abdul Momin Rizwan Ahmad
University Institute of Diet and
Nutritional Sciences, The
University of Lahore, Islamabad
Campus, Islamabad-Pakistan
P: 0300-5332253
E: abdul.momin@ahs.uol.edu.pk

Citation: Abdul Momin Rizwan
Ahmad, Waqas Ahmed, Sanaullah
Iqbal, Muhammad Hassan
Mushtaq, Riffat Ayesha Anis Umar
Farooq. Extraction of highly pure
prebiotic inulin from indigenous
chicory roots adv food nutr Sci.
Volume.1.2020 p.01-02

Funding:

The authors received no direct
funding for this research.

Competing Interests:

The authors declare no competing
interest's

Additional information is available
at the end of the article.

Conference Abstract

EXTRACTION OF HIGHLY PURE PREBIOTIC INULIN FROM INDIGENOUS CHICORY ROOTS

Abdul Momin Rizwan Ahmad^{1,3}, Waqas Ahmed¹, Sanaullah Iqbal¹, Muhammad Hassan Mushtaq², Riffat Ayesha Anis³ and Umar Farooq³

¹Department of Food Science and Human Nutrition, University of Veterinary and Animal Sciences, Lahore-Pakistan

²Department of Epidemiology and Public Health, University of Veterinary and Animal Sciences, Lahore-Pakistan

³University Institute of Diet and Nutritional Sciences, The University of Lahore, Islamabad Campus, Islamabad-Pakistan

ABSTRACT

Background: A prebiotic is defined as a non-viable food substance component (insoluble fiber), which exhibits selective fermentation and moves to the colon to selectively ferment bacteria, thereby improving the host health. Inulin is a long chain prebiotic, which is a natural component of several vegetables and fruits such as tomatoes, leeks, garlic, onions, wheat, bananas, chicory and asparagus. It is composed of GF_n molecules having linear β -2 $\rightarrow$ 1-linked polyfructose chains with glucose unit at its terminal end. The objective of the current research was to extract Inulin from indigenous Chicory roots which are considered to be among the richest sources of Inulin.

Methodology: For the purpose of extraction of Inulin, Chicory roots were taken and washed with water. They were then cut into small pieces and after that, subsequent drying and grinding were done using a laboratory grinder. Extraction of Inulin was done by taking 100 grams of ground sample powder and stirring at 90°C for 30 minutes using 0.9 g NaCl and 600 mL distilled water. Filtration of this stirred powder was done followed by precipitation with Ethanol at 4°C for 24 hours. It was then centrifuged at 300 rpm for 20 minutes after which it was washed thrice with ethanol. Finally, oven drying of the resultant powder was carried out at 40°C to obtain the Inulin powder. Once the extraction process was completed, the inulin powder was subjected to the processes of ultrafiltration and spray drying to obtain the pure inulin powder. An adequate membrane was used which ensured the retaining of high molecular inulin particles within the retentate.

Results: The resultant inulin obtained after this process was approximately 98.6% pure.

Conclusions: The study concluded that highly pure Inulin could be obtained from indigenous Chicory roots and used for various health benefits.

Key words: Prebiotics, Inulin, Extraction, Chicory Roots, Health Benefits.