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Kefiran, A Novel Polysaccharide Produced by the Probiotic *Lactobacillus kefiranofaciens*

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Recent interest in the field involving microbial polysaccharides such as kefiran is extensively emerging as an important source of natural biopolymer materials. Polysaccharides are widely utilized and have increasing demand especially in different food and pharmaceutical industrial sectors. The supplies are not sufficiently meet the demand and inconsistently. Therefore, there has been a great interest to isolate and identify new microbial polysaccharides that might have better characteristics. Kefiran is a type of water soluble polysaccharide that is produced by the microbial probiotic lactic acid bacteria known as *Lactobacillus kefiranofaciens*. This carbohydrate polymer was earlier isolated from kefir grain and it is produced either as extracellular or in capsular form. Kefiran have diverse potential application in food, nutraceutical and cosmeceutical industries based on its GRAS (Generally Regarded as Safe) status. Moreover, it was also proven to have many functional properties in pharmaceutical applications as immunostimulant and antimicrobial polysaccharides.

Keywords: Probiotic, Kefiran, Polysaccharide, *Lactobacillus kefiranofaciens*

Biography

Dr. Daniel is currently a senior lecturer for Bioprocess and Polymer Engineering, Faculty of Chemical and Energy Engineering, Universiti Teknologi Malaysia. He is also an associate fellow for the Institute of Bioproduct Development and member for the research group FoBerg UTM. He received his Ph.D. in Bioprocess Engineering from Universiti Teknologi Malaysia. Before joining UTM, he works as a principal scientist in the RND department for Biocon Sdn Bhd, Asia's largest integrated insulins manufacturing facility at the Biotech Park in Johor, Malaysia. He also previously works as a research scientist under the Centre for Biofuel and Biochemical Research (CBBR), Universiti Teknologi PETRONAS in Perak, Malaysia. Dr. Daniel has experience working in the operation and process scale up for bioprocess fermentation of bacteria and yeast platform; performing technology transfer activities; planning, carrying out and supervising process trials in laboratories, pilot plants and manufacturing plant.

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