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**TAL 797 – Seminário
11 – 08 - 2016**

CASEIN MICELLES AS NANOVEHICLE FOR INTEREST MOLECULES

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Milk contains several proteins with important functional properties, as the ability to bind hydrophobic molecules, to interact with other biopolymers, to stabilize emulsions, to form gels and to retard oxidation [1]. Because of these properties, they are ideal materials for entrapment and delivery of interesting molecules [2]. Casein is the major component of bovine milk, comprising approximately 80% of the total milk proteins. Caseins are recognized as safe raw materials with high nutritional value, beyond they are abundant and from a renewable source [3]. Their singular property is to self-assemble into natural micelles with an average diameter of 200 nm. Casein micelles (CMs) present a supramolecular structure with multiple and different binding sites. This characteristic has a great advantage compared to metallic nanoparticles or synthetic polymers. In the last 10 years, a growing number of studies on CMs as potential nanovehicles have been published. We present, in this work, an overview on the major advances on CMs as nanovehicles for deliver of nutraceuticals or synthetic molecules which are of special interest in food, medical or pharmaceutical areas. Future strategies are considered and discussed.

References :

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