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Influence of succinylation on physicochemical property of yak casein micelles

Min Yang^{a,b*}, Jitao Yang^a, Yuan Zhang^a, Weibing Zhang^{b,c}

^a College of Science, Gansu Agricultural University, Lanzhou, China

^b Functional Dairy Product Engineering Lab of Gansu Province, Lanzhou, China

^c College of Food Science and Engineering, Gansu Agricultural University, Lanzhou, China

Abstract

Succinylation is a chemical-modification method that affects the physicochemical characteristics and functional properties of proteins. This study assessed the influence of succinylation on the physicochemical properties of yak casein micelles. The results revealed that surface hydrophobicity indices decreased with succinylation. Additionally, denaturation temperature and denaturation enthalpy decreased with increasing succinylation level, except at 82%. The buffering properties of yak casein micelles were affected by succinylation. The results revealed that chemical modification contributed to a slight shift of the buffering peak towards a lower pH value and a markedly increase of the maximum buffering values of yak casein micelles at pH 4.5–6.0 and pH <3. Succinylation increased yak casein micellar hydration and whiteness values. The findings obtained from this study will provide the basic information on the physicochemical properties of native and succinylated yak casein micelles.

* Corresponding author: Min Yang

Address: College of Science, Gansu Agricultural University, Lanzhou, China

E-mail: yangmin@gsau.edu.cn (M. Yang)

Tel.: 008613893272871

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