

Supporting Information

The stability and spicy taste masking effect of capsaicin loaded α -lactalbumin micelles formulated in defatted cheese

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Table S1. The zeta-potential (mV) of nanomicelles (M), M(Cap) and Cap embedded amount (mg g⁻¹) by M.

	Average particle size (nm)	Zeta potential (mV)	Embedded amount (mg g ⁻¹)
M	21.2±1.9	-19.27±0.55	
M(Cap)	23.6±2.4	-23.47±0.87	123.4±6.1

Table S2. Comparison of texture indexes of cheeses.

	F	DF	DF+M(Cap)	
Texture				
	Rigidity(N)	20.49±4.29	33.23±1.31	35.17±4.83
	Elasticity(N)	3.28±0.01	0.55±0.20	0.65±0.06
	Cohesion(N)	1.48±0.04	0.27±0.01	0.31±0.16
	Adhesivity(N)	28.71±4.95	9.08±0.84	14.29±5.61
	Chewiness(N)	99.10±3.09	5.08±2.22	9.49±4.46
	Cohesiveness(N)	0.56±0.03	0.51±0.24	0.57±0.13

Table.S3. Properties and spiciness preference scale of cheeses.

	1	4	7
Organizational status	Loose and fragile Mold	Hard texture, basically uniform, with smaller particles	Fine texture and smooth
Texture pattern	Perforated and not dense	Unclear texture pattern	Clear texture
Colour	Yellowish or other colour		White clean colour or bright-colored
Smell and taste	Abnormal flavour ^a and odour ^b		Normal flavour ^a and odour ^b
Spiciness preference	Disliked	Acceptable	Favourite

^a Abnormal flavor = strong, rancid burning or fruity flavor. Normal flavor = slightly sour and salty.

^b Abnormal odor = strong rancid or fruity and yeasty odor. Normal odor = reflecting mainly that from acetic acid and short-medium chain free fatty acids.

Table.S4. The relationship between the spiciness level and the score.

Level	Score
Not spicy	0
Mild spicy	1-3
Low-level spicy	4-6
Moderate-level spicy	7-9
High-level spicy	10-12

Table.S5. The score of cheese containing different concentration of capsaicin.

The concentration of Cap (mg/50g DF)	Score	Level
1	0.5±0.50	Not spicy
6	4±0.77	Low-level spicy
9	5.3±0.64	Low-level spicy