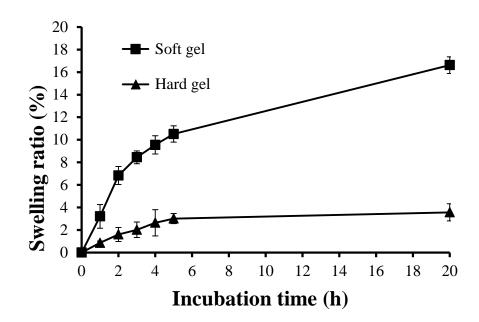
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## 2 Supplementary Information

## 3 1 Swelling experiment

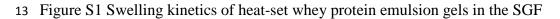
Gel sample (3 g and 5 mm thickness) was placed in 40 ml simulated gastric fluid (SGF) without added pepsin. Experiments were carried out at 37 °C. The gels were taken out of the solution after 1, 2, 3, 4, 5 and 20 h incubation respectively and excess water was removed by gently blotting with a tissue paper and the mass of the gel was recorded. Swelling ratio (SR) was calculated using the following expression:  $R = (W_t - W_0) / W_0$ , where  $W_t$  denotes the weight of the gel at time t and  $W_0$  is the initial weight of the gel.<sup>1</sup> Experiments were replicated 6 times.

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## 15 2 Reference

16 1. B. Vardhanabhuti, W. Khayankan and E. A. Foegeding, J. Food Sci., 2010, 75, E305-E313.

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