

# Improvement of Functional Properties of Bovine Serum Albumin through Phosphorylation by Dry-Heating in the Presence of Pyrophosphate

著者	Enomoto Hirofumi, Li Can-Peng, Morizane Kentaro, Ibrahim Hisham, Sugimoto Yasushi, Ohki Shinichi, Ohtomo Hideko, Aoki Takayoshi
journal or publication title	Journal of food science
volume	73
number	2
page range	84-91
year	2008
URL	<a href="http://hdl.handle.net/10232/4017">http://hdl.handle.net/10232/4017</a>

doi: info:doi/10.1111/j.1750-3841.2007.00634.x

**Table 3—Gelling properties of heat-induced gel from BSAs**

Sample <sup>a</sup>	Hardness <sup>b</sup> (gf/cm <sup>2</sup> )	Resiliency <sup>b</sup> (%)	WHC <sup>b, c</sup> (%)	Turbidity of solution before/ gel after heating ( $A_{595nm}$ ) <sup>d</sup>
N-BSA	558.3 ± 42.1b	60.0 ± 3.5b	87.8 ± 0.3a	0.05 / 0.45
MP+N-BSA	545.3 ± 4.2b	58.8 ± 0.7b	89.3 ± 0.1a	0.04 / 0.36
MP-BSA	500.3 ± 5.1b	59.6 ± 1.3b	90.4 ± 0.8b	0.04 / 0.33
PP–BSA-5d	469.0 ± 28.8a	51.5 ± 2.5a	90.4 ± 0.5b	0.07 / 0.09
PP–MP-BSA-1d	542.7 ± 19.8b	62.2 ± 5.1b	92.7 ± 0.1c	0.05 / 0.06
PP–MP-BSA-5d	455.7 ± 34.8a	65.6 ± 2.3c	94.2 ± 0.5d	0.09 / 0.10

<sup>a</sup>N-BSA = native BSA; MP+N-BSA = BSA added with MP; MP-BSA = BSA conjugated with MP by incubation at 50 °C (65% RH) for 3 d; PP–BSA-5d = BSA dry-heated at pH 4.0 and 85 °C for 5 d in the presence of pyrophosphate; PP–MP-BSA = MP-BSA dry-heated at pH 4.0 and 85 °C for 1 and 5 d in the presence of MP and pyrophosphate.

<sup>b</sup>Each value is the mean ± SD ( $n = 4$ ); means in same column with different letters are significantly different ( $p < 0.05$ ).

<sup>c</sup>WHC = water-holding capacity.

<sup>d</sup>Data represent the mean value of two determinations, with a deviation of < 1%.

1

2

3

4

5

6 **Table 3.**

7 **Enomoto and others.**

8