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# Heat and ultrafiltration extraction of broiler meat carnosine and its antioxidant activity

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## Abstract

This study examined the effects of extraction and further ultrafiltration on the carnosine content, antioxidant activity and total iron content of chicken muscle extracts. Fresh breast meat had 7-fold higher carnosine than fresh thigh meat (2900 versus 419  $\mu\text{g/g}$  meat, respectively). Carnosine extracts of breast and thigh were prepared by heating at 60, 80 and 100 °C, and ultrafiltration (UF) using a 5000 MW cut-off. At increasing temperatures, protein concentrations decreased while carnosine, total iron and antioxidant activity increased. Antioxidant abilities of the 80 and 100 °C-heated extracts were greater than that of the 60 °C extract ( $p < 0.05$ ). The ultrafiltrate from the 80 °C-heated extract had approximately 20% higher carnosine, but 40% lower protein and 10–30% lower iron than the 80 °C-heated ultrafiltrate. However, compared in terms of carnosine concentration, the meat extracts had greater antioxidant activity than pure carnosine ( $p < 0.05$ ).

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*Keywords:* Broiler meats; Carnosine; Antioxidant; Heat extraction; Ultrafiltration

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