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# Genotype and gender differences in carnosine extracts and antioxidant activities of chicken breast and thigh meats

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## Abstract

The aim of this work was to investigate the effects of genotypes and gender of chickens on carnosine contents and their antioxidant activities. The carnosine content of fresh meat from Thai indigenous and hybrid native chickens differed between breeds ( $p < 0.01$ ) and genders ( $p < 0.01$ ). Regardless of these differences, breast meat contained 2–4-fold higher carnosine than thigh meat. After water and heat extraction at 80 °C and ultrafiltration, the carnosine content of meat extracts had the same distribution as in fresh meat. No relationship between total iron and carnosine content on antioxidant activity of the extract was detected. However, when compared in the extracts on the basis of mM carnosine in oxidation system, the extracts of chicken meat showed greater antioxidant activity than pure carnosine ( $p < 0.05$ ). Furthermore, at equal concentrations, thigh meat extract had higher effective inhibiting ability than breast extract.

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*Keywords:* Thai indigenous chicken; Chicken meat; Carnosine; Antioxidant

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