



Analysis of Proteinogenic Amino Acids in Chicken Meat

In the "Analysis of Anserine and Carnosine in Chicken Meat" (AS/AAA-014), it was introduced that chicken meat contains anserine (Ans) and carnosine (Car). These components have effects such as antioxidative, anti-fatigue, and uric acid reducing effects and thus, they are drawing attention. Car is the dipeptide of L-histidine (His) and β -alanine (β -Ala) and Ans is the dipeptide of 1-methyl-L-histidine (1Mehis), methylated His, and β -Ala.

When analyzing proteinogenic amino acids, the sample that has been hydrolyzed with hydrochloric acid, etc., is generally analyzed by protein hydrolysis analysis method. This time, the same chicken meat was prepared by the hydrolysis with hydrochloric acid and the analysis was performed by physiological fluid analysis method and the results are introduced here.



L-8900 High-speed Amino Acid Analyzer

Analysis of Chicken Meat Hydrolysate by Physiological Fluid Analysis Method

- ✓ Not only proteinogenic amino acids but also β -Ala and 1Mehis that constitute Ans and Car were detected.
- ✓ It is difficult to separate these components from other components by using the standard protein hydrolysis analysis method.
- ✓ In cases like this, the physiological fluid analysis method is effective.

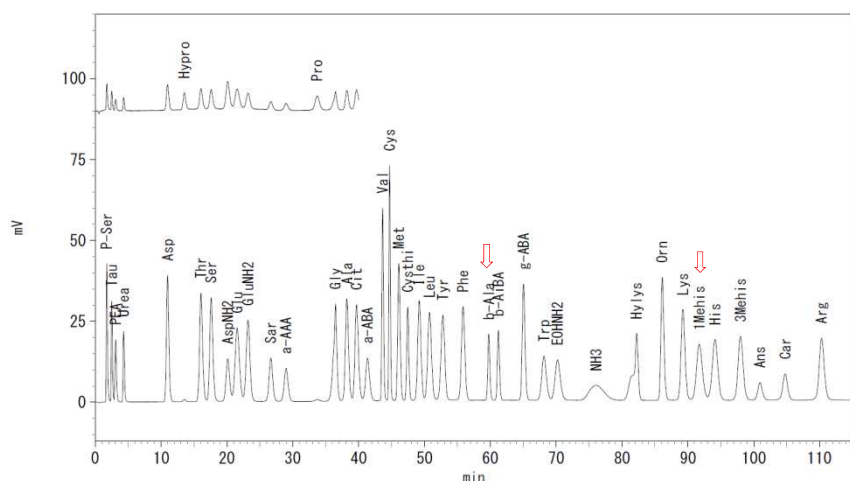


Figure 1 Analysis Example of Amino Acid Mix Standard
 β -Ala, 1Mehis Concentration: 2 nmol/20 μ L

Table 1 Analytical Conditions

Column	#2622PF 4.6 mm I.D. x 60 mm
Guard column	#2619 4.0 mm I.D. x 5 mm
Ammonia filter column	#2650L 4.6 mm I.D. x 40 mm
Mobile phase	MCI buffer solution L-8500 PF-kit*
Flow rate	0.35 mL/min
Column temp.	30-70 °C
Reaction reagent	Ninhydrin Coloring Solution Kit for Hitachi*
Reaction reagent flow rate	0.35 mL/min
Reaction temp.	135 °C
Detection wavelength	VIS 440 nm, 570 nm
Injection vol.	20 μ L

*Distributor: Wako Pure Chemical Industries, Ltd.

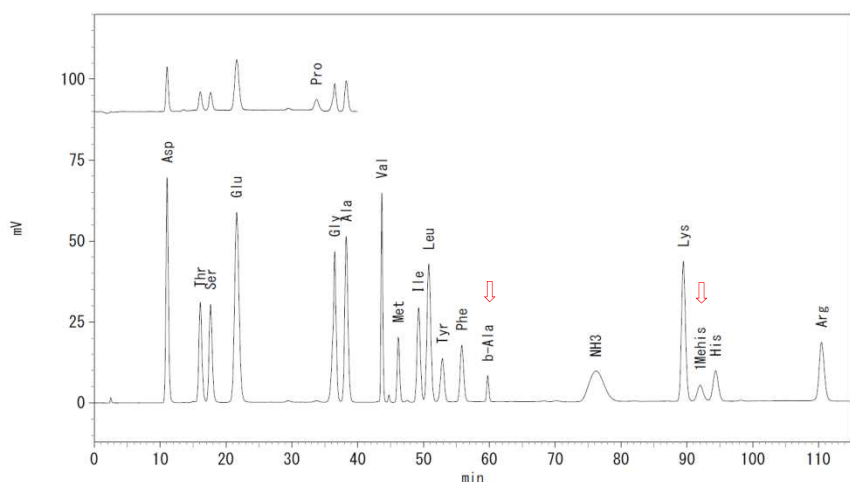


Figure 2 Analysis Example of Chicken Meat (After Preparation)

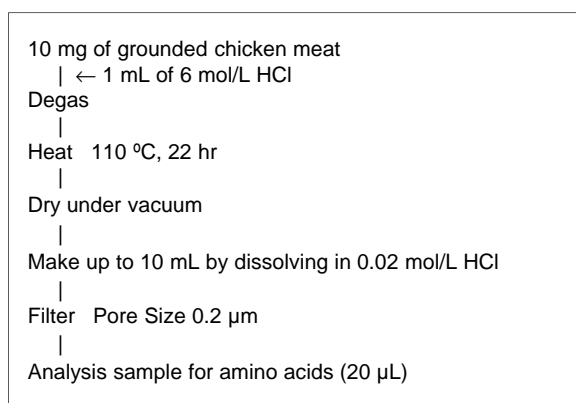


Figure 3 Preparation Method for Chicken Meat