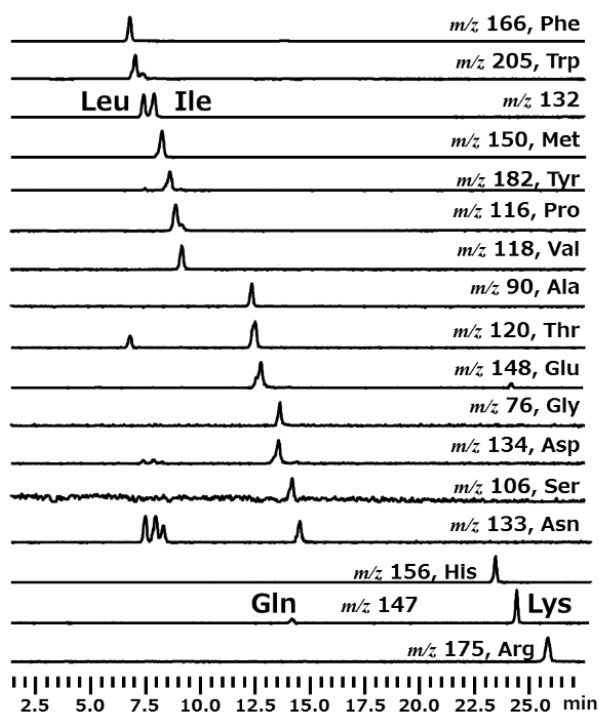
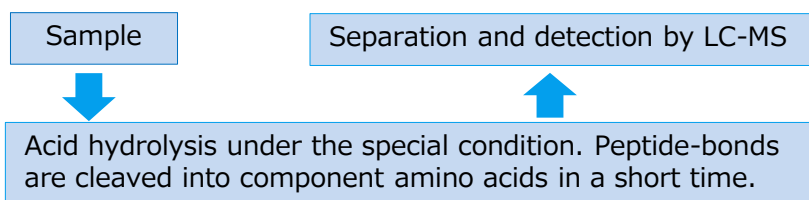


Technical Notes: Simple and Rapid Amino Acid Analysis

- Peptides are widely used as pharmaceutical active ingredients, medicinal cosmetics, supplements and food additives, thus simple and rapid amino acid analyses are indispensable in quality control.
- Recently HiPep Laboratories established the facile and rapid method for multiple samples by the high-throughput manner. **K. Nokihara, Y. Tominaga, A. Kitagawa, A. Hirata and T. Kasama (2016) Peptide Science 2015, H. Hojo, T. Inazu, H. Katayama (Eds.), p. 69-72.**
- The method involves rapid acid hydrolysis, separation of resulted amino acids and mass spectrometric analyses.
- Amino acid composition analysis is a powerful auxiliary method for characterization of peptides and portions in addition to sequence analysis. Especially, discrimination Leu and Ile by the simple low resolution mass spectrometer.
- Compared to the conventional method, the present method requires fewer sample amounts and extremely short analysis-time.

Procedure



Left: A typical elution profile of standard natural amino acids; column Intrada Amino Acid, 3 id x 150 mm

Flow rate 0.6 mL/min, 40 °C; Detection by LC-MS (ESI positive mode), data by the courtesy of Dr. Yazawa (Imtakt)

Experiments in own Facility

Following devices and apparatus should be used: AHST-16 (HiPep), HPLC column for amino acids (HiPep), Mass Spectrometer: ex. Shimadzu single Q-Pole (inexpensive) is enough, since MS can be used as detector instead of UV.

Contract analyses

- For this service the sample should be powder/ freeze dried material.
- Lead time : 5 business days after sample received.
- Results are sent by email
- Amino acid amounts required for analyses: at least 0.5 μmol/amino acid.

Since this column used for this system cannot discriminate D and L enantiomers rapid hydrolysis at high temperature can be employed, in which conditions the racemization occurs.

For precise amino acid composition and D/L chiral analyses (GLP, GMP approved) the analysis service provided by HiPep Labs can be used.

Related information and publication list = <http://hipep.jp/?p=1127> ; 1136; 1142; 1146; 1149; 1152.