

Peptide analysis

Peptide analyses in capillary zone electrophoresis format were performed using Shimadzu MCE-2010. In capillary zone electrophoresis, sample components are separated based on the difference in mobility according to their charge to mass ratio. Two examples of the simple approach for capillary zone electrophoresis of peptide using an uncoated chip (Type U) and a running buffer without sieving polymer are illustrated here.

1. Separation of Angiotensin I,II and III

Sample : Angiotensin I,II and III (conc.:each 100pmol/ μ L)

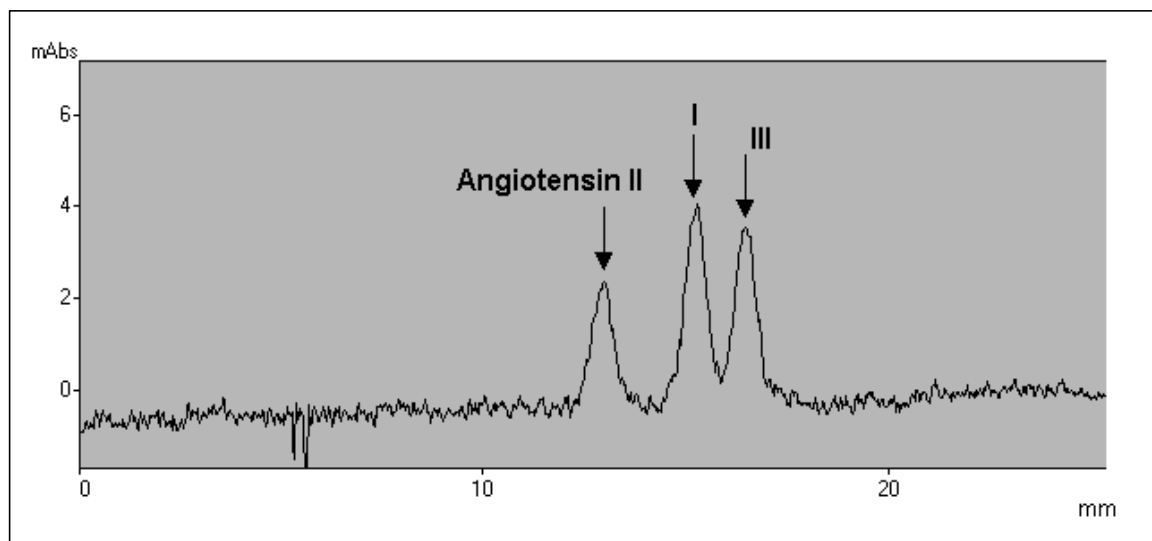
Chip : Type U

Buffer : 20mM phosphate (pH3.2)

Condition : Injection HV1=1.00, HV2=0, HV3=0.78, HV4=1.80 [kV], 40sec

Separation HV1=0.64, HV2=0.64, HV3=0.78, HV4=0.40[kV], 50sec

Wave length : 200nm



Amino acid sequence of peptide and pI (theoretical)

Angiotensin I : Asp-Arg-Val-Tyr-Ile-His-Pro-Phe-His-Leu pI6.92

Angiotensin II : Asp-Arg-Val-Tyr-Ile-His-Pro-Phe pI6.74

Angiotensin III : Arg-Val-Tyr-Ile-His-Pro-Phe pI8.75

2. Separation of monophosphorylated and unphosphorylated

Sample : Monophosphorylated and unphosphorylated protein tyrosine phosphatase substrate (conc.: each 100pmol/ μ L)

Amino acid sequence : :

Monophosphorylated : Thr-Arg-Asp-Ile-Tyr(SO₃H)-Glu-Thr-Asp-Tyr-Tyr-Arg-Lys

Unphosphorylated : Thr-Arg-Asp-Ile-Tyr-Glu-Thr-Asp-Tyr-Tyr-Arg-Lys

Chip : Type U

Buffer : 20mM phosphate (pH3.2)

Condition : Injection HV1=1.00, HV2=0, HV3=0.78, HV4=1.80 [kV], 40sec

Separation HV1=0.64, HV2=0.64, HV3=0.78, HV4=0.40 [kV] 50sec

Wave length : 200nm

