A Rapid and Accurate Microfluidic Detection Method for Amino Acids in Cell Culture Medium

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Abstract

research and development, largely determines the quality and e f ciency of subsequent protein material production.

and express proteins, nutrients such as amino acids will be continuously consumed. Therefore, di f erent cell culture

K[illegible]: A[illegible] Ac[illegible] A[illegible]; Z[illegible]C[illegible] CE-MS; Ce[illegible] C[illegible] Med[illegible]

Ca[illegible] R[illegible]

[illegible] [1].

[illegible] ESI [illegible] MALDI-MS/MS [2]. [illegible] HPLC-ESI-MS [illegible] GC-MS [illegible] [3].

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b e Xca . (Q a). F a ad c f da a c ec , f a da a, de ec e f 21 a d (20 c a d) a a ca be c ed a 3 .

C a ed ad CE-ESI-MS ec , a d ad(a ca e), a e e d ec f a ec e , e e fa , a de ec ab - de ec . Ba ed e ab c de a , ea ad ZDC CE-MS ec e de ec f a d ce c e De f a ad a a ead b a d c ec d , e , acc ac , a d a a a (e 1 a d 2).

ZDC CE-MS ca de ec a d ac d , ab f e, e d acc ac . e a a e f ZDC CE-MS a c e a a d ac a a (HPLC e d) e ec a ead a be (F e 3).

F F e 3 b , a ea d ac a a e f ZDC CE-MS a e c e a d ac a a , a d ca a de ec a d ac a a e, a , a d c e a ca be de ec ed b e d ea d ac de ec c f e ee da . I add , e de ec c f e ee a e a f ZDC CE-MS. I ca be ee ea d ac a a ec ba ed ZDC CE-MS fa e e ad a HPLC/UPLC e d e f de ec c a d de ec c . Sce e de ec e f e ec a e c e , e ZDC CE-MS de ec e d ca e ace c e f ed a d ac de ec (Table 1).

D e e e a ee ded ZDC CE-MS, e ea e ea e d ea . e ad ca ac f ZDC CE-MS e a d f a f c e a HPLC e d, d e e a a e a a e c a d ba d a e fe e ce, e a ac d a de ec ed b ZDC CE-MS ea ed.

U ZDC CE-MS a a e ea ac c f ce c e ed a ead a a e f fa a a ed, da a a d c . I a a a ac a a ec . C a ed e a ea a ac a a ec e a e, ca be ee e eed f a

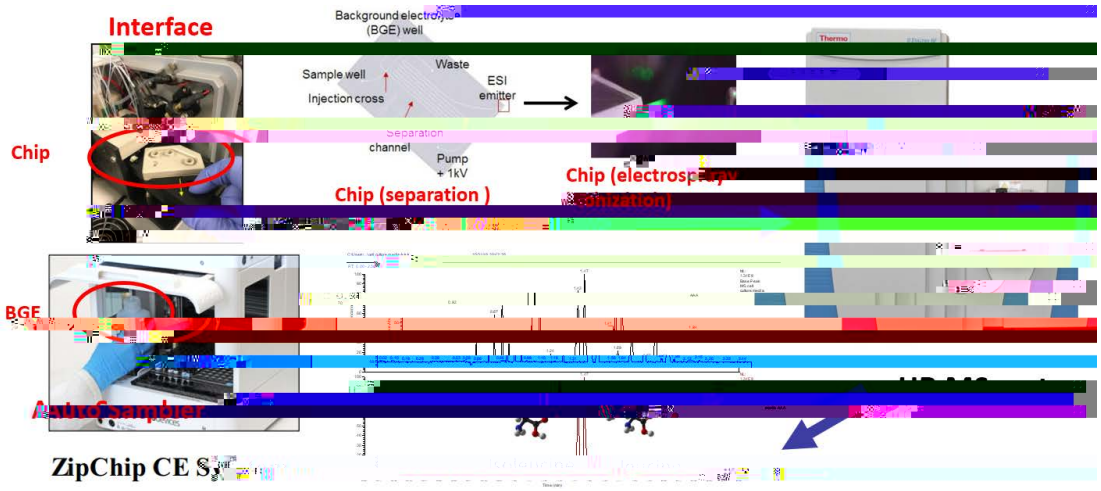

Figure 1:

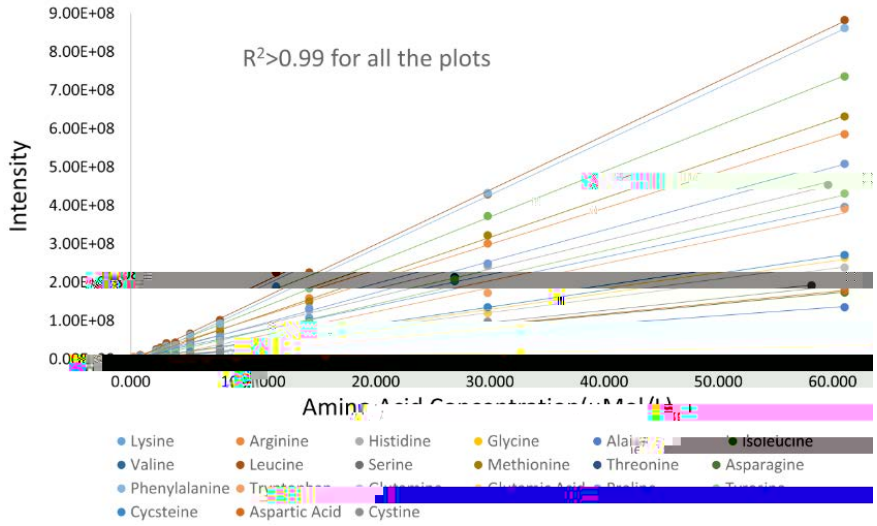

Figure 2:

de ec f a ac ce e ed a d a e e
e de e e f ce e.

References

desorption ionization time-of-fight mass spectrometry