Keywords:
Purine Analysis, Microdialysis,
Microbore Chromatography

Determination of Purines in Microdialysates Using UniJet SepStik Columns

1004

Purpose

Determination of adenosine, guanosine and adenine (F1) in microdialysates.

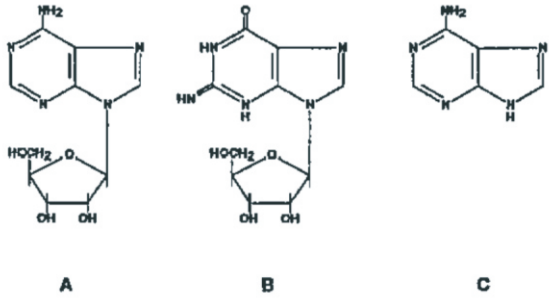

Figure 1. *Structures of adenosine (A), guanosine (B) and adenine (C).*

In order to separate and sensitively detect purines in microdialysates, a BASi UniJet SepStik microbore column was used. The 1 mm internal diameter increases the concentrations of the eluting purines up to 21-fold compared to standard LC columns.

Existing Methods

LCEC and LCUV with conventional columns.

Conditions

System: BASi Electrochemical Detector Package with a HPLC pump equipped configured for microbore chromatography.
Column: UniJet SepStik Kit (BAS P/N MF-8949).
The packing was ODS 3 µM silica in a 100 x 1.0 mm bed.
Mobile Phase: 7 mM NaH_2PO_4 containing 3.5%
CH_3OH. Adjust pH to 3.04 after adding CH_3OH.
Flow Rate: 80 µL/min .
Detector: A UV detector equipped with a micro-volume cell.
Wavelength: 260 nm
Range: 0.002 AUFS
Rise Time: 1.0 sec.
Detection Limit: 50 pg injected yielded a S/N of 3.
The injection volume was 5 µL.

Sample preparation

Dialysate was directly injected onto the system.

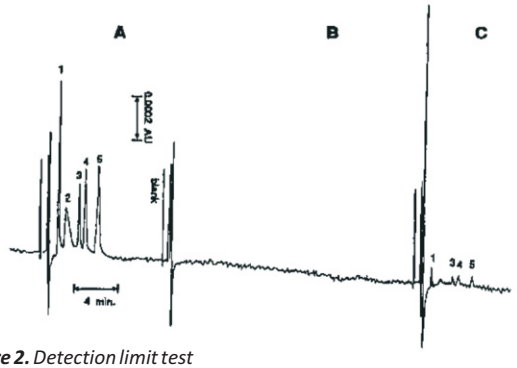

Figure 2. *Detection limit test*
A: 500pg of each purine standard
B: Blank
C: 50pg of each purine standard

Peak Identification:
1. *hypoxanthine*
2. *adenine*
3. *inosine*
4. *guanosine*
5. *adenosine*

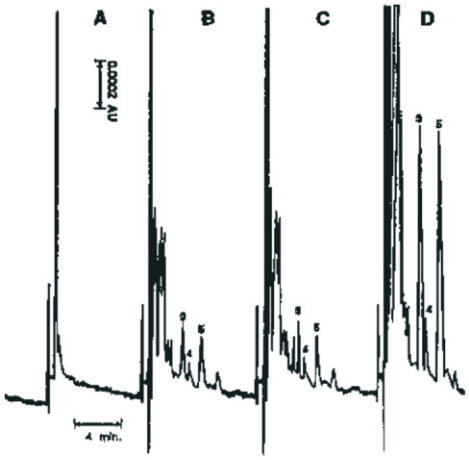

Figure 3. *Purines in various rat striatum dialysates.*
A: Blank (Ringer's solution)
B, C & D: Various dialysate samples

Peak Identification as in F2.

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