

# 21 key Amino Acids and Catecholamines in Microdialysates

Determination of 21 amino acids and catecholamines of high interest in neuroscientific assays, from a single injection (5 µL) of diluted microdialysate, by microHPLC separation and Laser Induced Fluorescence Detection

## Introduction:

This application note reports the status of a work which is still in progress, to set up a method for the simultaneous detection of 21 key compounds in microdialysates (Amino acids and catecholamines). The method couples microHPLC with LIF detection to provide the neuro- scientist with one of the most powerful tool for the analysis of microdialysates.

## Getting the maximum amount of data from your microdialysates

The method requires less than 5 µL of microdialysates. Not only does this save some precious amounts of microdialysates (for example offering the possibility to analyze ACH separately); but it also opens the way to greater temporal resolution in the fraction collection process, and allows more powerful kinetic studies of drug metabolism.

The derivatization process with NDA is easy and fast to be completed. The total cycle is approx of one hour yet but this will be improved by the use of more specific columns in the assays presently under investigation.

## Instruments:

microHPLC: WATERS CAPLC system  
Injector: LC packings Famos Automated Injector  
Detector: Picometrics ZETALIF 2000 detector  
Laser: He-Cad Laser, 442 nm, 35 mW

## Sample:

Standards in solution or real microdialysates, less than 1 µL of microdialysate is required.

## Reagents:

Derivatization: Naphthalene Dicarboxaldehyde (NDA)

## Methods:

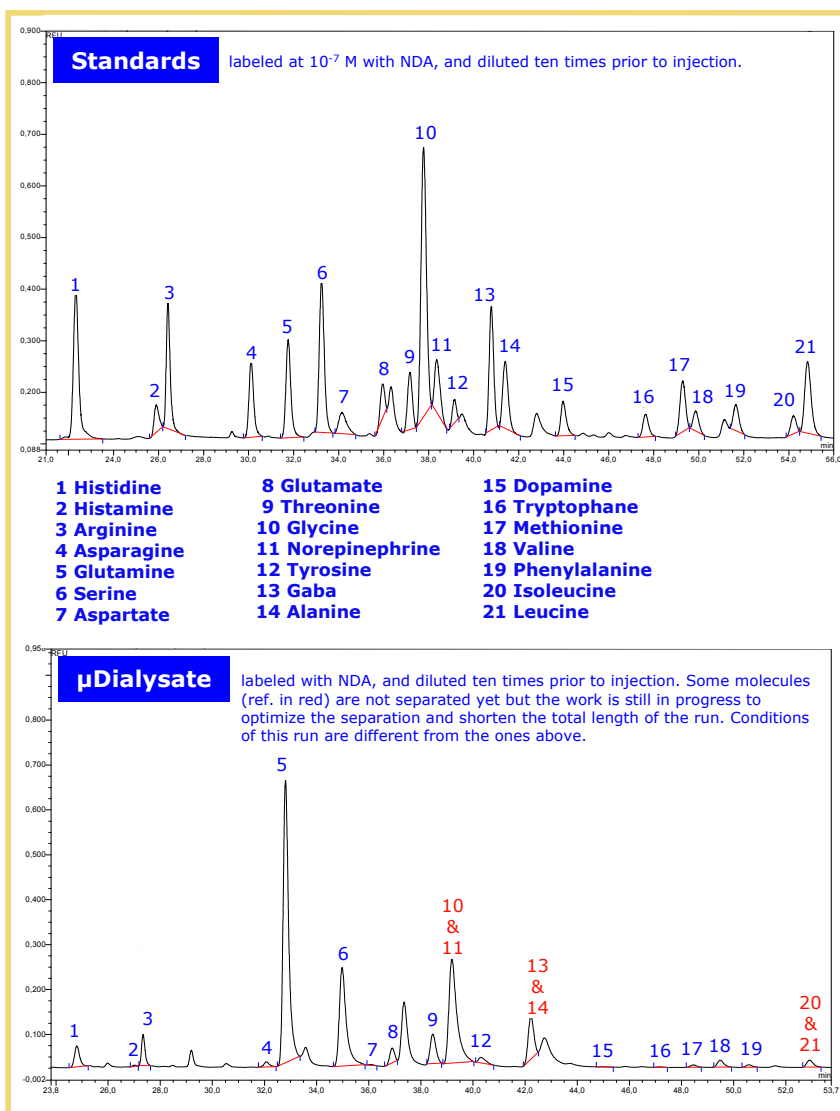
Flow rate: 5 µL/min  
Injection volume: 5 µL  
Column: Grom INERTSIL ODS 3;3 µm (150 mmx300 µm)  
Working temperature: 35°C  
Detector Capillary: 75 µm ID  
For complete experimental details, please contact Picometrics

## Limit of Detection\*:

work still in progress but  
nanoMolar LOD or lower expected

\* Estimated for a S/N of 3

DRAFT



Source: Picometrics application lab. 09/2004.