Electrochemical Detector

Superb electrochemical detection technology - Optimum for high selectivity analysis at high sensitivity!

This detector is ideal for analyzing substances having electrochemical activity (neurotransmitters, etc.).

Flexible System Configuration

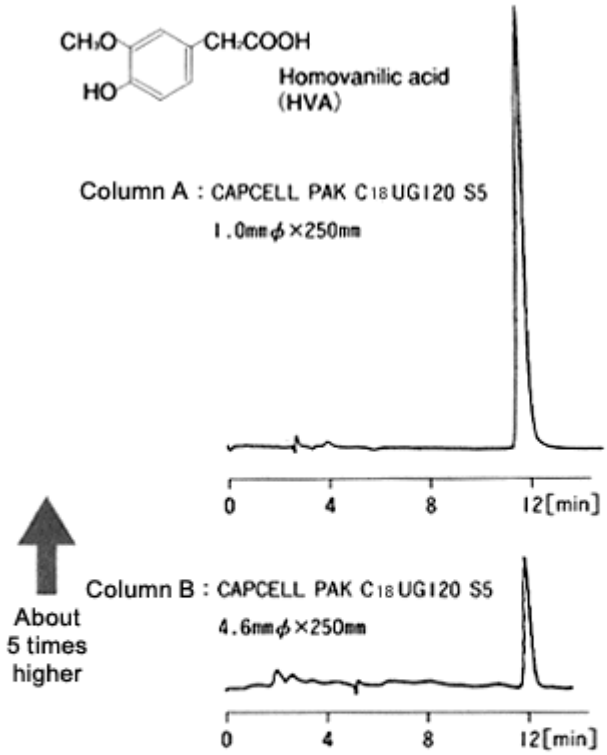
Various analytical systems can be constructed by combining various components.

Special Cell Developed for Semi-microcolumn

A uniquely developed cell enabled high-sensitivity analysis.

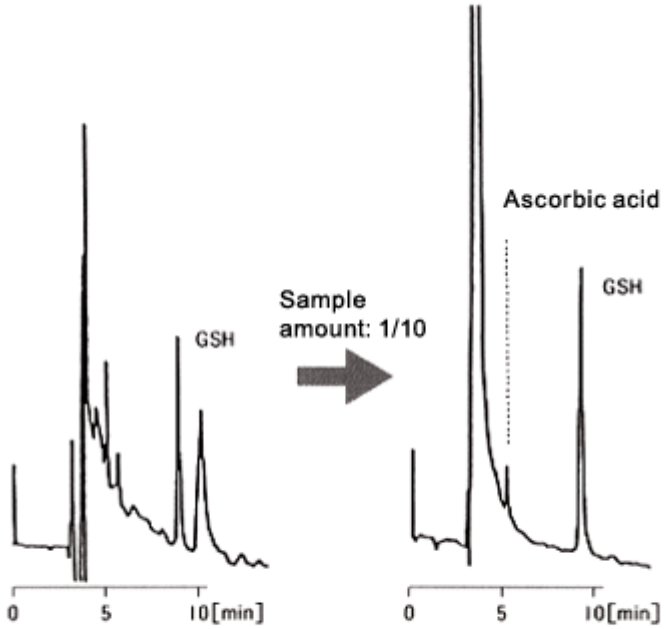
Remarkable Sensitivity Enhancement

Comparison of sensitivity with electrochemical detection



Instrument	: NANOSPACE SI-2
Mobile phase	: Acetonitrile - 0.068 vol% potassium dehydrogenphosphate, 0.08 vol% phosphoric acid, 2 ppm EDTA-2Na = 11/89 (v/v)
Flow rate	: (A) 50 µL/min (B) 1.0 ml/min
Temperature	: 40°C
Detection	: ECD 0X 850 mV (Ag/AgCl): ECD 0X 850 mV (Ag/AgCl)
Injection volume	: 1.0 µL
Sample	: Homovanillic acid (8.8 pmol)

Comparison of sensitivity between electrochemical detector and UV-VIS detector



Detection : UV-VIS detector
Sample amount : Rat liver extract equivalent of 9.3 µg in a freeze-dried state

Detection : Electrochemical detector
Sample amount : Rat liver extract equivalent of 9.3 µg in a freeze-dried state

Comparison of sensitivity among electrochemical detector, UV-VIS detector, and fluorescence detector

Detector	Detection limit (pg)
UV (280 nm)	1500
Fluorescence (295/356 nm)	20
ECD (+750 mV)	1.0

Sample: Folic acid

Specially Designed Glassy-carbon Electrode

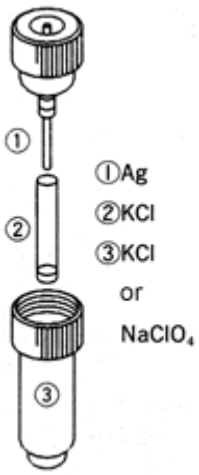
Significant improvements in durability, reaction efficiency and baseline stabilization were achieved by using specially structured high-purity glassy-carbon as a working electrode. Several other types of working electrodes are available (platinum, silver, and gold).

Low-noise and Rapid Baseline Stabilization

The unique design of the electrode assembly (working electrode, reference electrode, and counter electrode) with a current limiting circuit allows the rapid stabilization of baseline with low noise.

Double-layered Reference Electrode (Patent Pending)

The detector has a double-layer structure reference electrode so that (1) will not be placed in direct contact with the mobile phase. Therefore, an organic solvent can be used for the mobile phase simply by changing the outer cylinder liquid to $NaClO_4$ solution.



Easy Maintenance

The electrode structure allows quick detachment/attachment and disassembling/assembling for efficient rinsing and maintenance.

Specifications

Product No.	3005
Product Name	Electrochemical detector
System	Triple-electrode potentiostat
Applied Voltage Setting	Digital setting of ±1990 mV in 10 mV steps
Compensating Current	-30 to +5000 nA
Working Electrode	Glassy carbon (Option: Platinum, gold, and silver)
Reference Electrode	Silver/Silver chloride
Counter Electrode	SUS316
Electrode Chamber Temperature	30°C
Cell Volume	3.5 µL
Measuring Range	0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500 nA
Measuring Sensitivity	x0.1, x1, x10
External I/O Signal	For recorder (10 mV) For integrator (2 mV/nA) Error, integrator start, and auto-zero
Operating Temperature	10 to 28°C

Power	AC 100 V ±10%, 50/60 Hz, 50 W
Dimensions	120(W) x 230(H) x 479(D) mm
Weight	About 10 kg