

Pulsed Amperometric Detector

For Analysis of Carbohydrates and Polyols!

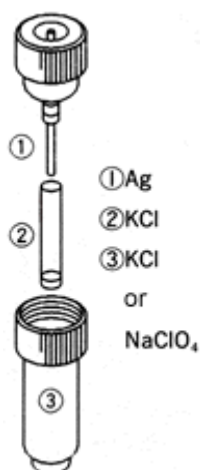


Optimum for High-sensitivity Analysis of Carbohydrates and Polyols!

Derivatization and other complex pretreatments are not necessary. The sensitivity is about 10 to 100 times greater than that of a differential refractometer.

Double-layered Reference Electrode (Patent Pending)

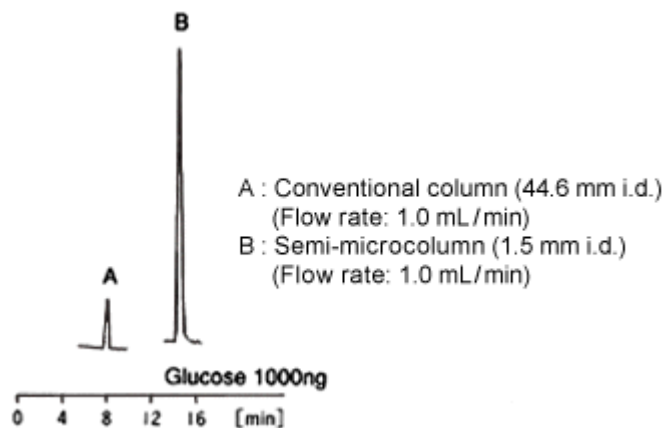
The detector has a double-layered reference electrode so that (1) will not be placed in direct contact with the mobile phase. Therefore, an organic solvent can be used for the mobile phase simply by changing the outer cylinder liquid to NaClO_4 solution.



Excellent Sensitivity with Cell Developed for Semi-microcolumn

A cell structure suitable for semi-microcolumn HPLC is adopted. Compared with a conventional column (4.6 mm i.d.), the analysis sensitivity is about 5 times greater.

Example of sensitivity increase in semi-microcolumn HPLC



The detector can also be used as a conventional high-sensitivity electrochemical detector by changing the mode.

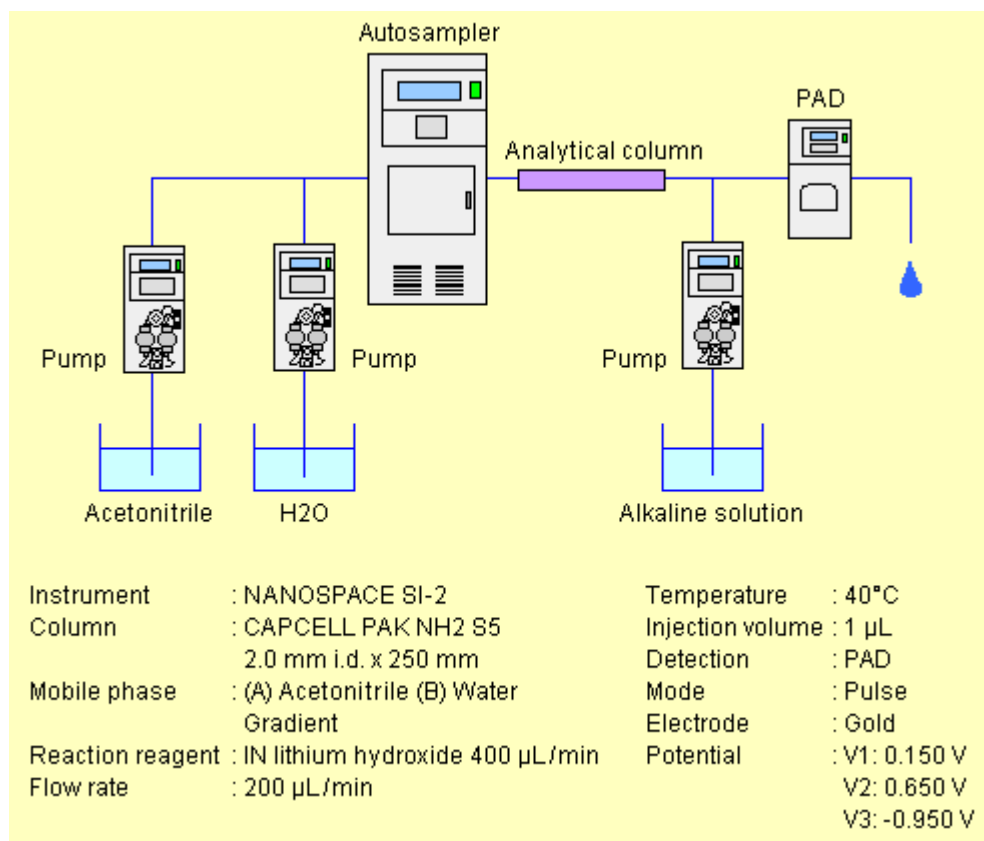
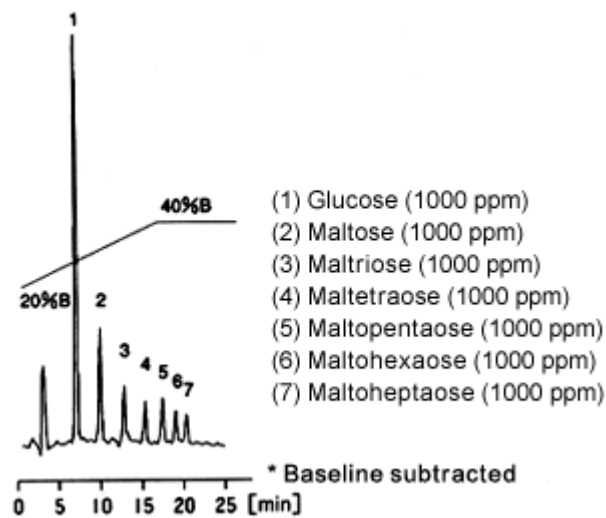
Since ordinary amperometric mode is also supported, the detector can be used for conventional electrochemical detector applications.

Easy Maintenance

The unique electrode design allows maintenance with no tools.

Gradient Analysis

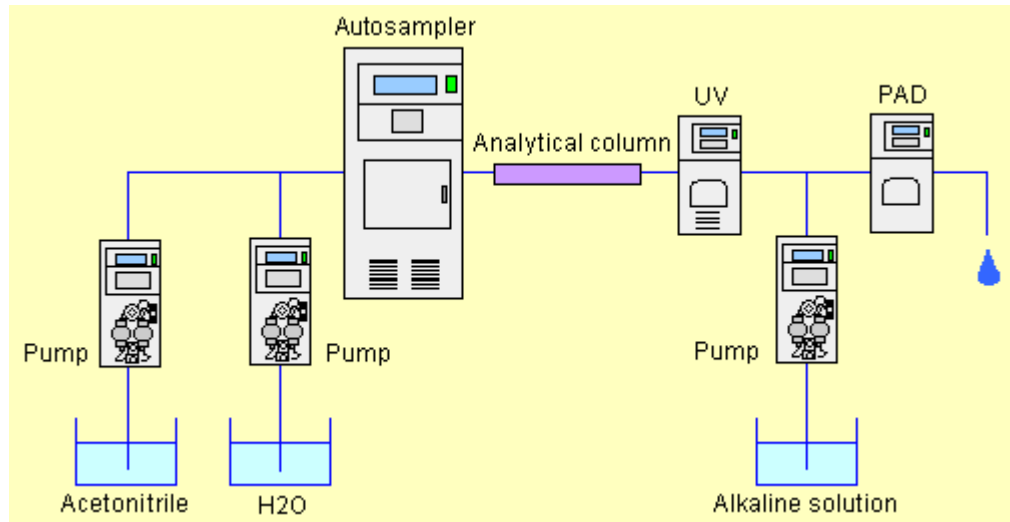
The unique reference electrode design permits the mobile phase of non-water solvent and gradient analysis.



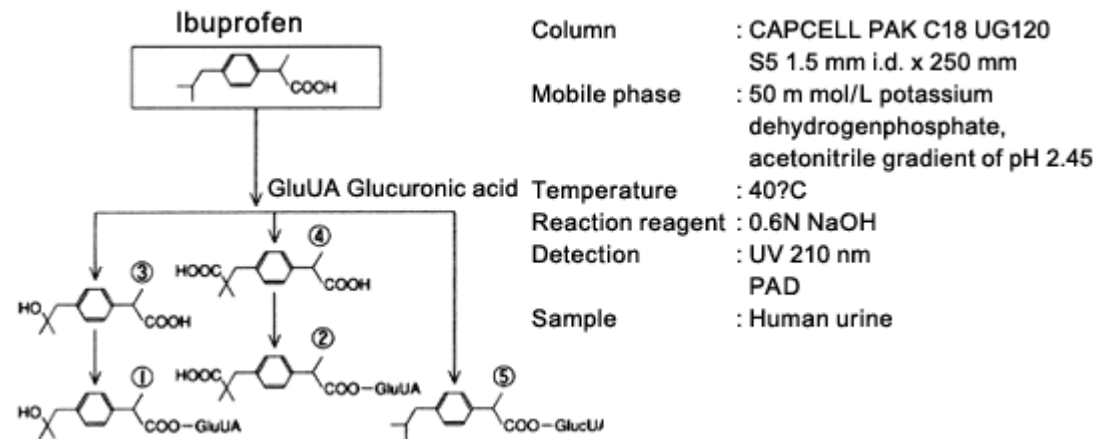
Selective detection of glucuronate conjugation in metabolite using pulsed amperometric

detector

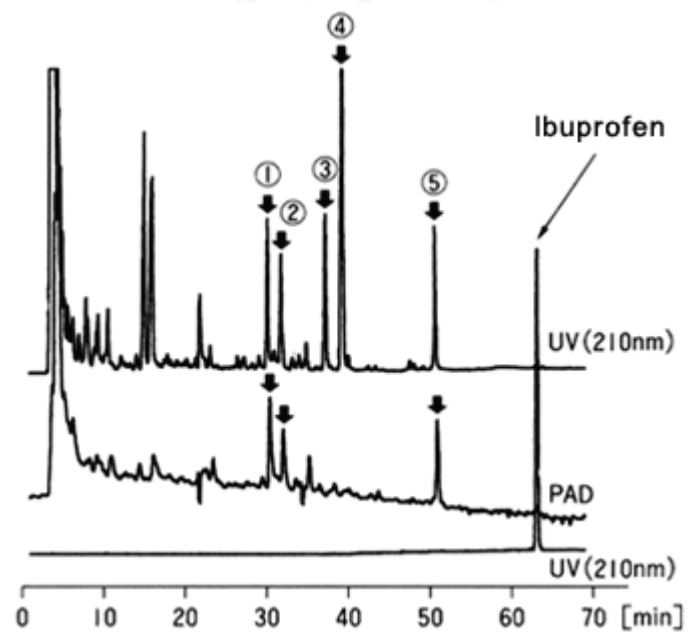
*Presented at the 116 Annual Conference of The Pharmaceutical Society of Japan in March 1996



Metabolic pathway of Ibuprofen



Ibuprofen metabolite



Specifications

Product No.	3016
Product Name	Pulsed amperometric detector
System	Triple-electrode potentiostat
Measurement Mode	Pulse mode, Amperometric mode
Applied Voltage Setting	Digital setting of ± 3990 mV in 1 mV steps
Compensating Current	± 60 nA (Measuring sensitivity $\times 0.1$) ± 600 nA (Measuring sensitivity $\times 1$) ± 6 μ A (Measuring sensitivity $\times 10$) ± 60 μ A (Measuring sensitivity $\times 100$) ± 600 μ A (Measuring sensitivity $\times 1000$)
Measurable Current	$\pm 60/600$ nA, $\pm 6/600$ μ A
Pulse Setting	3-level pulsed voltage setting by T1 to T3
Pulse Width	1 to 999 ms $\times 3$
Current Measurement Moving Time	TS: 1 to 999 ms
Current Measurement Time	TW: 1 to 999 ms
Working Electrode	Gold (Option: Platinum, gold, and silver)
Reference Electrode	Silver/Silver chloride
Counter Electrode	SUS316
Cell Temperature	30°C
Cell Volume	3.5 μ L
Output Range	0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500 nA
Output Sensitivity	$\times 0.1$, $\times 1$, $\times 10$, $\times 100$, $\times 1000$
Time Constant	FAST: 1 s STD: 4 s SLOW: 8 s VSLW: 16 s
External I/O Signal	For recorder (10 mV) For integrator Error, integrator start, auto-zero, and start
Power	AC 85 to 264 V, 50/60 Hz, 100 W

Dimensions	120(W) x 230(H) x 479(D) mm
Weight	About 9 kg