

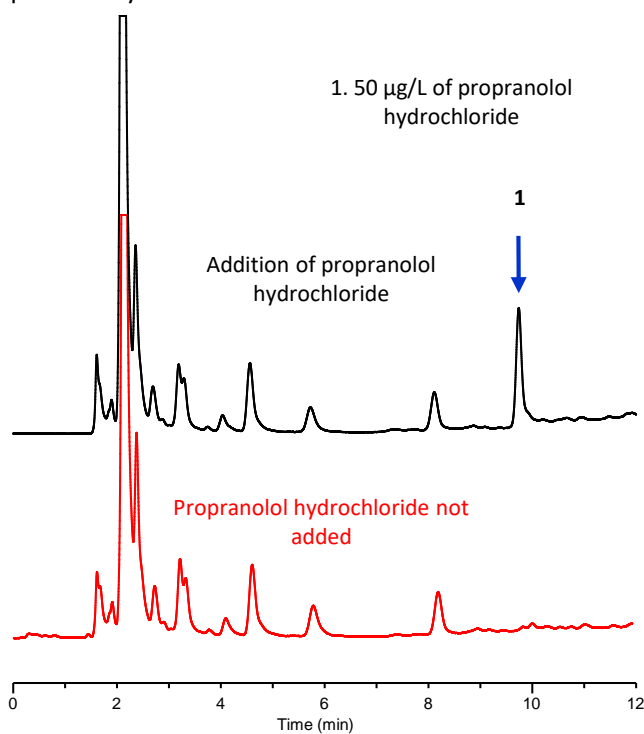
# Analyzing Propranolol Hydrochloride in Biological Samples by HPLC

We present a preprocessing method using MonoSpin SCX and propranolol hydrochloride analyses in biological samples using a laser-excited fluorescent detector LIF726.

Propranolol hydrochloride is a  $\beta$ -blocker that is used to treat angina, arrhythmias, and high blood pressure. This is one of the drugs that require blood monitoring because of the close therapeutic and poisoning range of blood concentrations, in addition to the large individual differences in drug metabolism. The therapeutic range is determined to be 10  $\mu\text{g/L}$  to 100  $\mu\text{g/L}$  in plasma,

## 1. Analysis of Serum Propranolol Hydrochloride

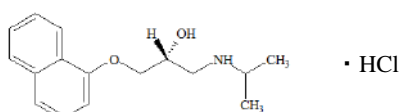
Propranolol hydrochloride solution was added to the control serum, followed by deproteinization and analysis.



### Conditions

**Column** : Monocap C18 fast-flow (150 × 0.1 mm I.D.)  
**Eluent** : A)  $\text{CH}_3\text{CN}/\text{H}_2\text{O}/\text{TFA} = 10/90/0.1$ , v/v  
 B)  $\text{CH}_3\text{CN}/\text{H}_2\text{O}/\text{TFA} = 95/5/0.1$ , v/v  
 A/B = 90/10 – 15 min - 30/70, v/v (gradient mixer)  
**Flow rate** : 1  $\mu\text{L}/\text{min}$   
**Col. Temp.** : 20  $^\circ\text{C}$   
**Detection** : LIF Ex. 266 nm Em. 300 - 350 nm (LIF726)  
**Injection Vol.** : 20 nL

### Structural Formula



Propranolol hydrochloride

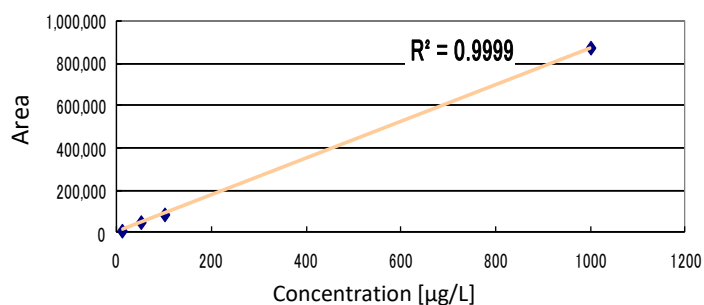
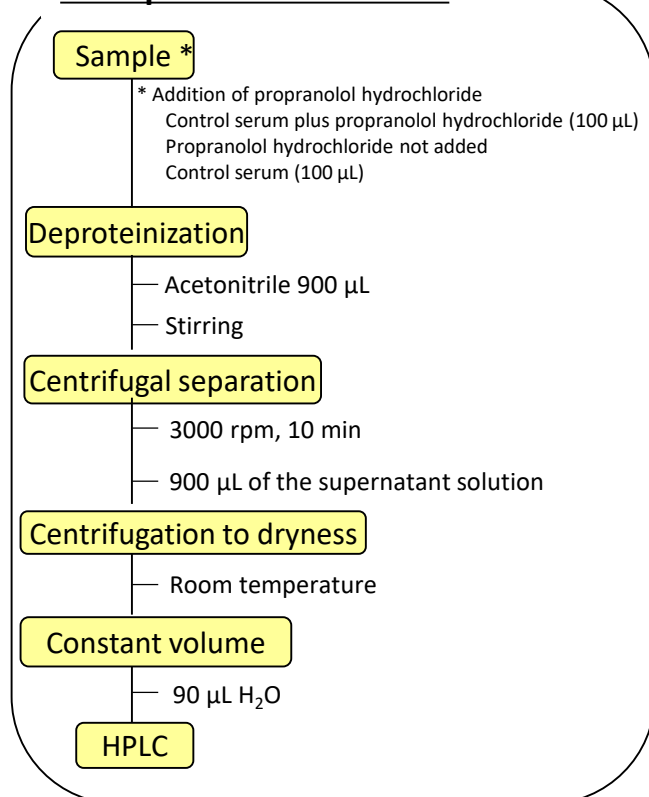
Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.

which requires a highly sensitive detection method. The laser-excited fluorescence detector used here enables sensitive and selective detection by using a laser as the source of the fluorescence detector.

10 n pages, we added propranolol hydrochloride to sera, then deproteinized them with organic solvents, and measured them HPLC. On p. 3, plasma was pretreated with propranolol hydrochloride followed by MonoSpin SCX and analyzed.

(A. Tamura)

### Example of Pretreatment



Serum propranolol hydrochloride calibration curve







## MonoSpin SCX

Cat. No. 5010-21725 (50)

Cat. No. 5010-21726 (100)

\* There are also trial kits for initial review!

MonoSpin Trial Kit 1: Optimal for Drug and Pesticide Analyses.

(C18, SCX, SAX, and 10 TiO)

Cat. No. 5010-21740

MonoSpin Trial Kit 2: Optimal for analyzing sugar chains and hydrophilic compounds.

(10 each of C18, Amide, CBA, and NH2)

Cat. No. 5010-21741

MonoSpin trial kit 3, optimal for analyzing ionic compounds.

(10 SCX, SAX, CBA, and NH2)

Cat. No. 5010-21742

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