

NOTE NO. 9 - June 5 1986

ANNOUNCEMENT AND PERFORMANCE OF A NEW ISRP GUARD COLUMN

Analytes: Phenobarbital (160 µg/ml), Carbamazepine (60 µg/ml)

Sample Matrix: Human serum

Sample Size: 10 microliters

Column: Guard column: 5 micron GFF ISRP, 1 cm x 3.0 mm ID

Regis Product Number: 731440

Analytical column: 5 micron GFF ISRP, 5 cm x 4.6 mm ID

Regis Product Number: 731450

Mobile Phase: 90% 0.1 M KH₂PO₄ (pH 6.8), 10% Acetonitrile

(HPLC grade reagents)

Procedure: Samples were injected with the guard and analytical columns in place. During the study and at random intervals, the analytical column was tested by itself, without the guard column.

Results:

No. of injections	0-10	375	745
Efficiency (plates/meter)	22,000	37,000	28,000
Back pressure	250	250	250



Detection: 254 nm, 0.1 AUFS

Flow Rate: 1.0 ml/min

Note: Sample filtered through 0.2 µm membrane prior to direct injection

Guard column replacement:

	Guard Column #	2nd	3rd	4th
Column	1st			
	Number of injections			
Guard	120 ^a	500 ^b	353 ^c	212 ^d
Analytical	120	620	973	1,185 ^d

Reasons for replacing guard column:

- a. Arbitrary**
- b. Back pressure increase to 3,250 psi**
- c. Back pressure increase to 900 psi**
- d. At this writing, guard column has not been replaced. Analytical column efficiency, 28,000 plates/meter; system back pressure, 250 psi.**

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