

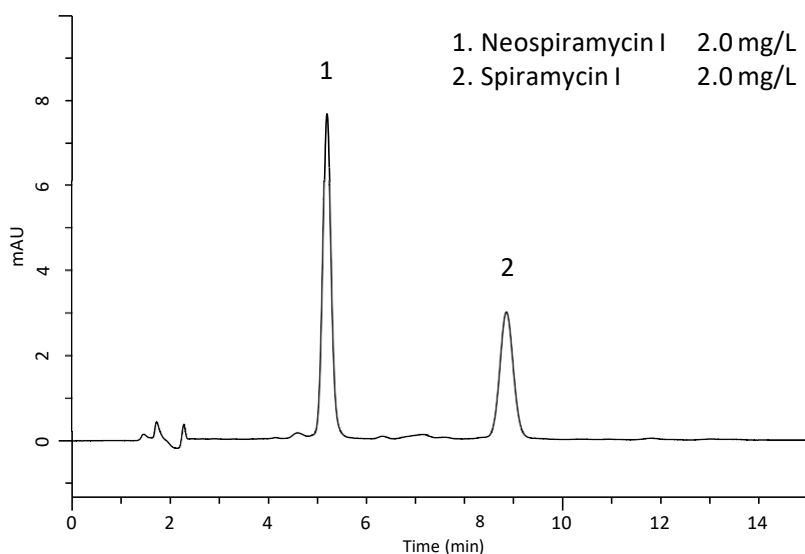
Analysis of Spiramycin in Beef by HPLC and SPE

Spiramycin, which is a macrolide antibiotic, has a remarkable antibacterial effect on Gram-positive bacteria and mycoplasma.

In this note, an analytical method for the determination of

spiramycin in beef sample was shown. High recovery rate was obtained by using an SPE (solid phase extraction) cartridge InertSep PRS, which has sulfonylpropyl functional group, before HPLC analysis. (R.Hirano)

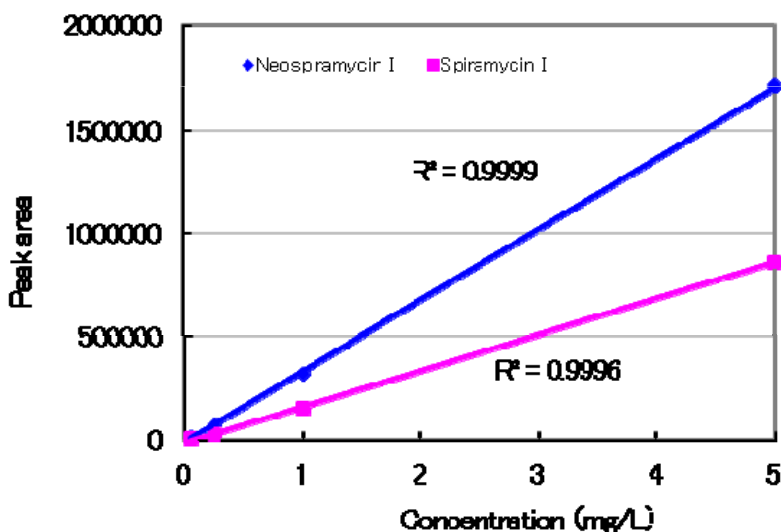
Chromatogram Obtained from Standard Solution



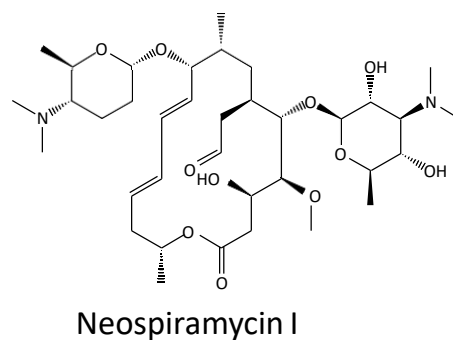
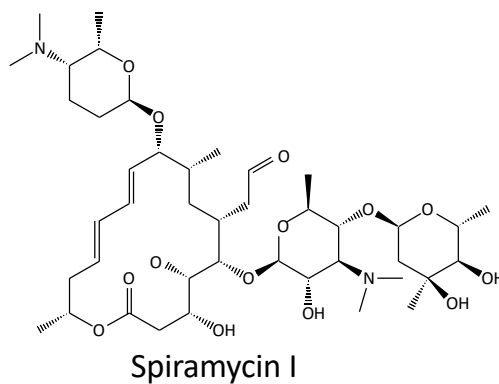
HPLC Conditions:

Column : InertSustain C18
(5 μ m, 150 \times 4.6 mm I.D.)
Eluent : A) CH₃CN
B) 65 mM NaH₂PO₄ (pH 2.5, H₃PO₄)
A/B = 25/75, v/v
(Mixed by a gradient mixer)
Flow rate : 0.5 mL/min
Col. Temp. : 40 $^{\circ}$ C
Detection : UV 235 nm
Inj. Volume : 10 μ L

Calibration curves

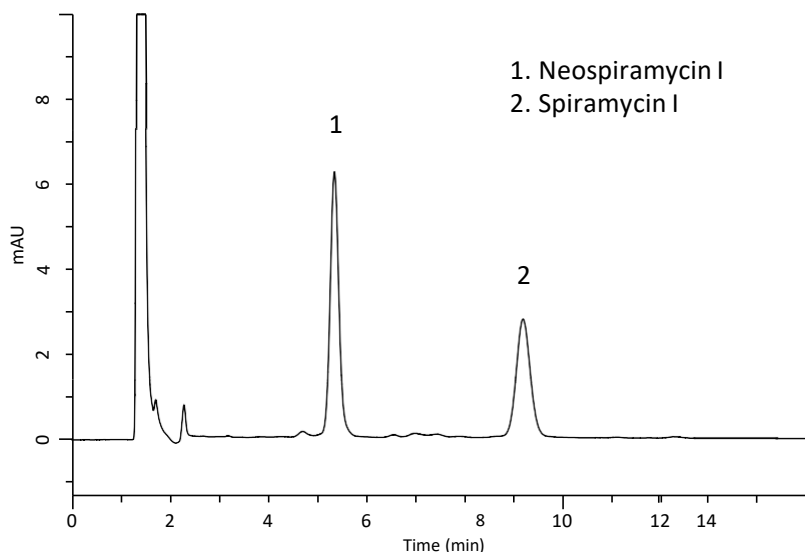


Chemical Structures



Standard-added Beef Sample

Concentration of spiramycin and neospiramycin was adjusted to 2.0 mg/L by adding standard solution to beef sample. Sample pretreatment shown at right was carried out, and obtained solution was analyzed by HPLC.



Recovery rate

Neospiramycin I	83.5 % (average of $n=3$, CV 7.3 %)
Spiramycin I	92.1 % (average of $n=3$, CV 3.2 %)

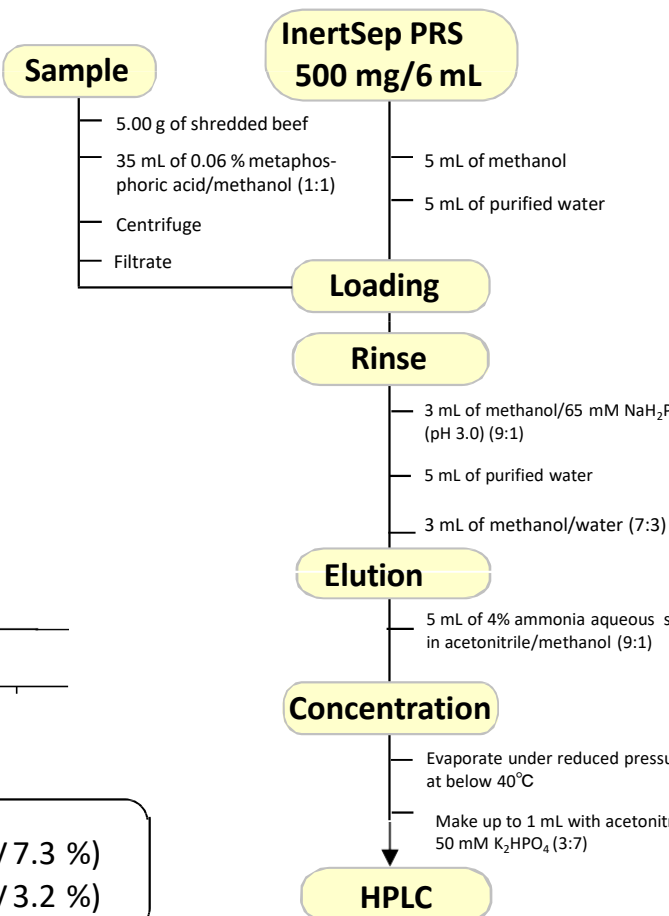
Autosampler equipped with sample cooler was used because the two compounds can be decomposed at room temperature. Further information can be found at LC technical note No.7.

The HPLC column used in this note; InertSustain

C18 (5 μ m, 4.6 x 150 mm)

Cat.No. 5020-07345

An Example of Sample Pretreatment



The SPE cartridge used in this note;

InertSep PRS 500 mg/6 mL 30/pk Cat.No.

5010-61524

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