



Determination of thiamphenicol residue in milk

Thiamphenicol is a synthetic antibacterial agent and is used as a veterinary drug. In this report, the analysis of thiamphenicol residue in milk was performed using a Hitachi Chromaster HPLC system refers to GB 29689 – 2013.

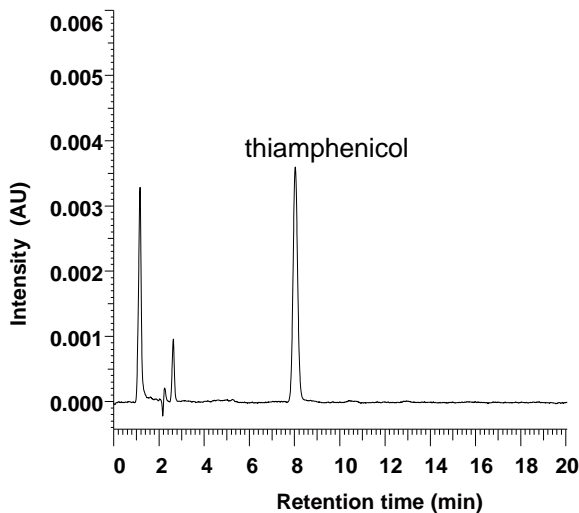
Samples were pretreated with solid phase extraction and separated by a GL Sciences InertSustain C18 as the analytical column, and detection is carried out with a UV detector at 225 nm.



High performance Liquid Chromatograph
Chromaster®

Analysis of standard samples

■ Analysis of standard sample



Chromatogram of standard sample
(thiamphenicol: 0.5 mg/L)

■ Analytical conditions

Column : GL Sciences InertSustain C18, 5 μ m,
4.6 mm I.D. \times 150 mm

Mobile phase : Acetonitrile / water = 15 / 85 (v/v)

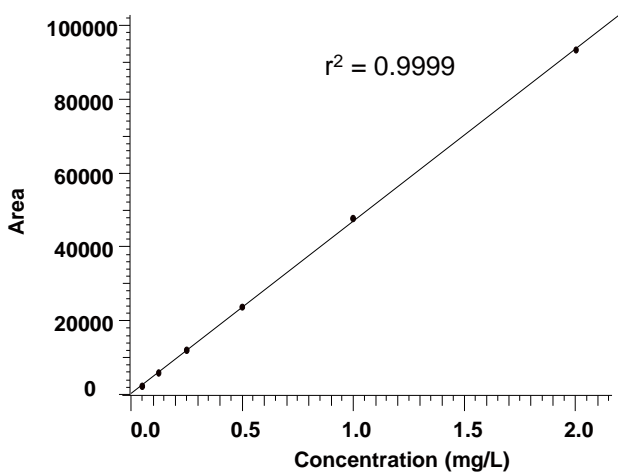
Flow rate : 1.0 mL/min

Column temperature : 30 $^{\circ}$ C

Detection wavelength : 225 nm

Injection vol. : 20 μ L

■ Linearity



■ Repeatability (thiamphenicol :0.5 mg/L, n=6)

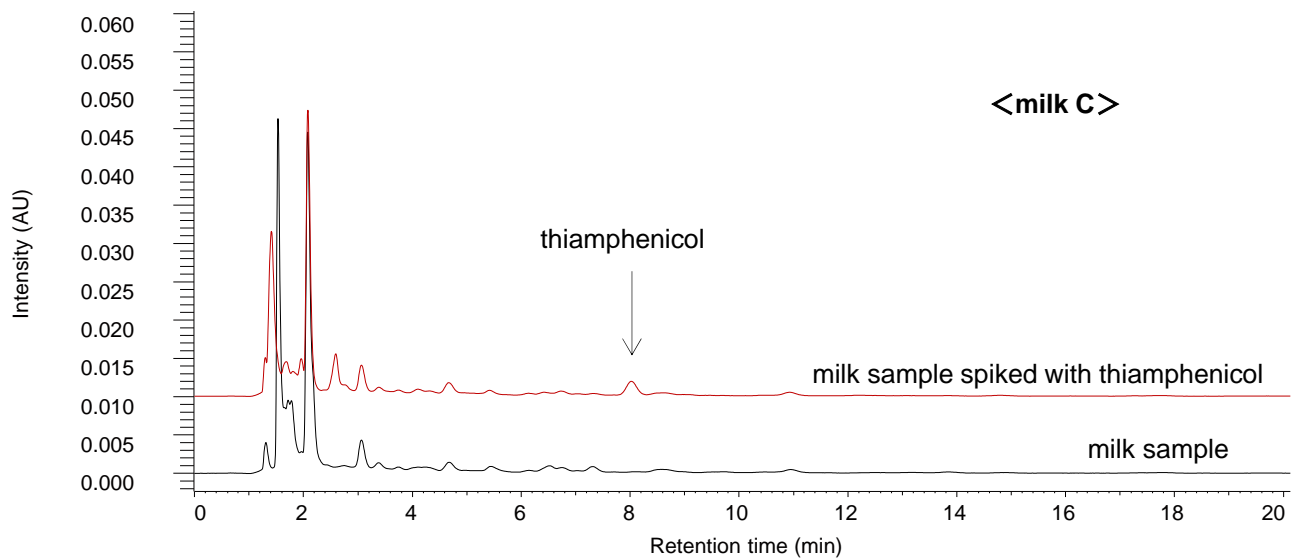
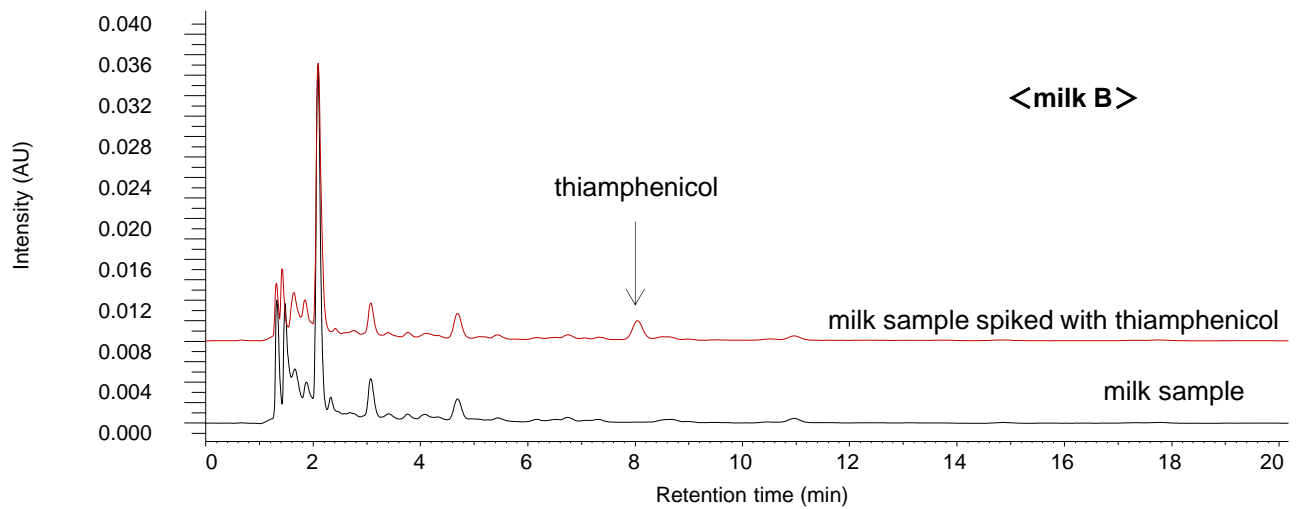
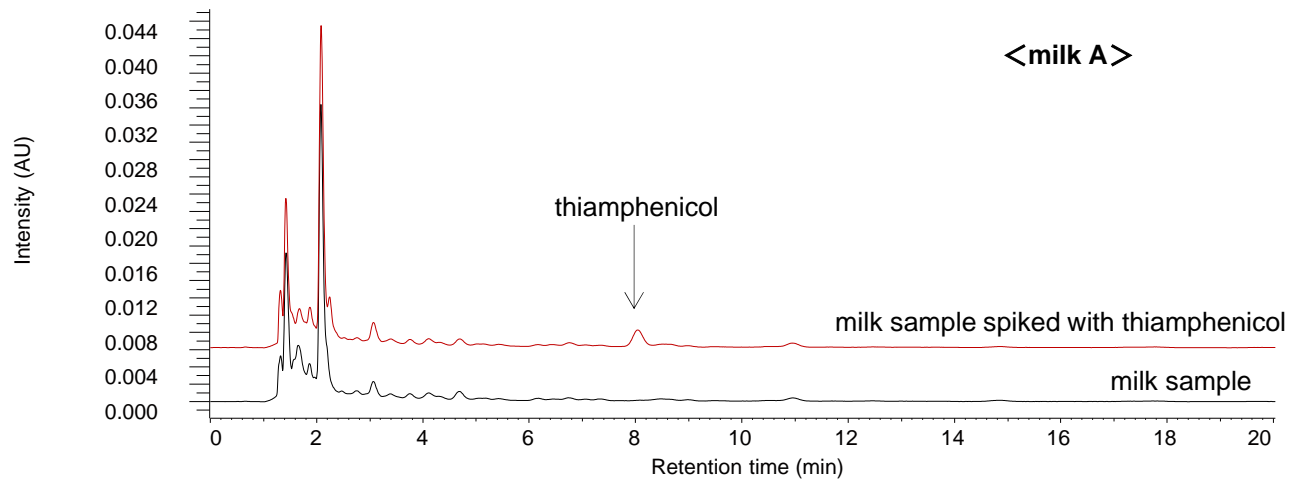
NO.	RT (min)	Area
1	8.032	21687
2	8.025	21713
3	8.028	21879
4	8.023	21664
5	8.017	21681
6	8.033	21802
AV.	8.026	21738
RSD%	0.07%	0.39%

The good repeatability of the retention time and the peak area was obtained, and thiamphenicol has the good linear relationship.



Determination of milk sample

■ Analysis of milk sample



The residue of thiamphenicol in commercially available milk was analyzed, and no thiamphenicol component was detected in the sample. The thiamphenicol standard sample was added to the sample, and the spiked recovery rate was determined. The recovery rate of thiamphenicol at a concentration of 50 µg/kg was 88.8% to 91.6%



Sample preparation method

■ Sample preparation method



<System> Chromaster 5110 Pump, 5210 Autosampler, 5310 Column oven, 5410 UV detector

NOTE: These data are an example of measurement; the individual vales can not be guaranteed.