

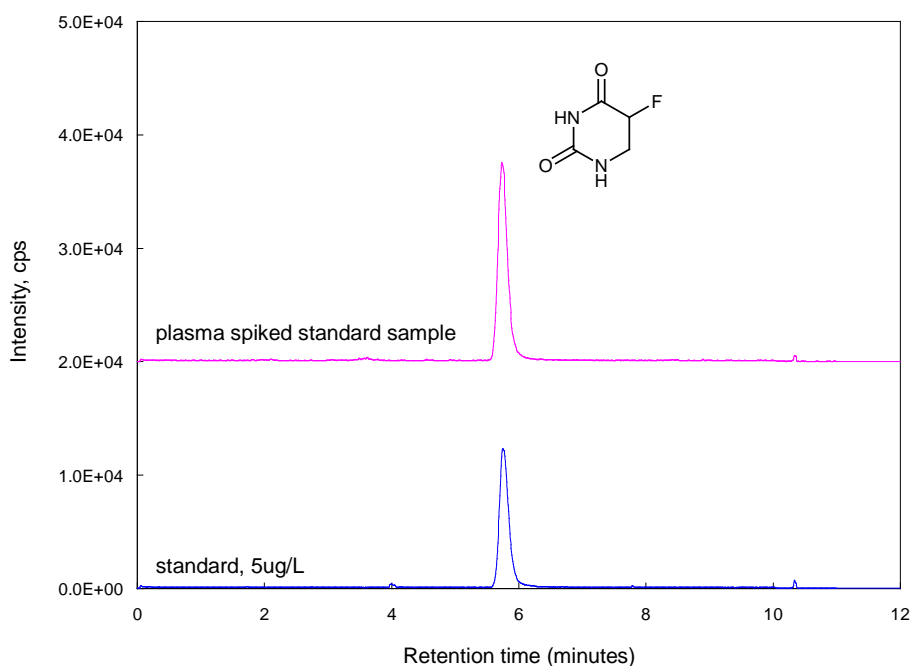
Analysis of 5-Fluorouracil in Plasma by LC-MS/MS

5-Fluorouracil (5-FU) belongs to the pyrimidine antimetabolite class of anticancer drugs. Although it is used broadly for various types of cancer, it is particularly effective against cancers of the digestive system, such as colon cancer and stomach cancer. An application of 5-FU in a plasma sample using hydrophilic interaction chromatography (HILIC) is shown here. Water containing formic acid/acetonitrile was used to elute 5-FU. After elution, the column was washed using a stepwise gradient. Analysis of a standard sample confirmed linearity of the calibration curve over the concentration range of 1.0 to 100 µg/L. Recovery of $\geq 87\%$ was obtained for a plasma sample that was spiked at a concentration of 50 µg/L, diluted four times with acetonitrile containing 1% formic acid, followed by protein extraction.

Table 1. Analytical conditions

Column:	TSKgel Amide-80, 3µm, 2.0mm ID x 15cm
Mobile phase:	A: 0.1% formic acid in water/acetonitrile = 3/97 B: 0.1% formic acid in water
Gradient:	0min (0%B) → 10min (0%B) → 10.1min (50%B) → 11.1min (50%B) → 11.2min (0%B)
Flow rate:	0.2mL/min
Temperature:	40°C
Injection vol.:	2µL
Instrument:	Agilent 1200SL series QTRAP® (AB SCIEX)
Ion source:	ESI (Negative) <i>m/z</i> 129>42

Figure 1: Chromatograms of standard sample and plasma-spiked standard sample





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