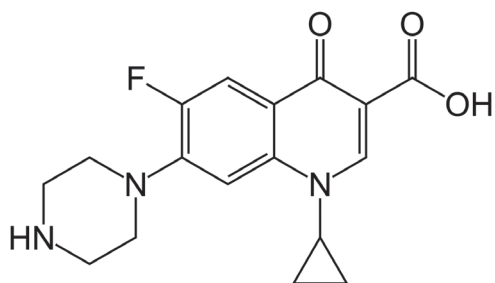
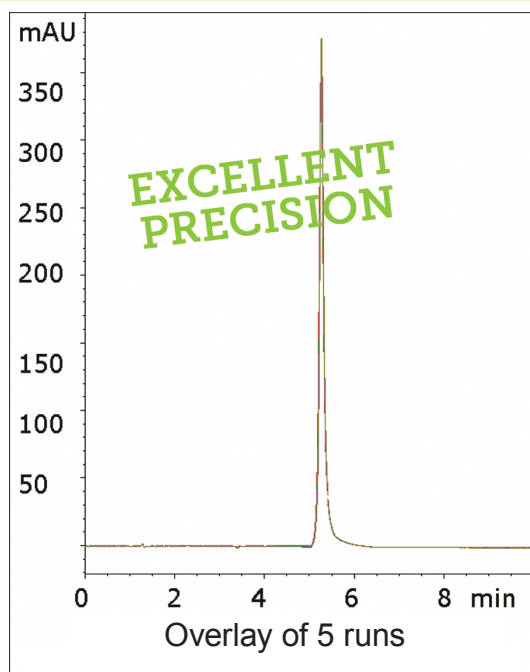


# Ciprofloxacin LC-MS Compatible Assay

Antibiotic tablet



**Note:** Ciprofloxacin is a fluoroquinolone antibiotic which acts by inhibition of DNA gyrase and topoisomerase IV. It was once used as a drug of last resort for bacterial infections, but accumulated resistance has made the drug less effective in recent years.

## Method Conditions

**Column:** Cogent Diamond Hydride™, 4µm, 100Å

**Catalog No.:** 70000-7.5P

**Dimensions:** 4.6 x 75 mm

**Mobile Phase:** A: DI H<sub>2</sub>O / 0.1% formic acid (v/v)  
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:	time (min.)	%B
	0	95
	1	95
	6	50
	7	95

**Post time:** 3 min

**Injection vol.:** 1µL

**Flow rate:** 1.0 mL/min

**Detection:** UV 270 nm

**Samples:** A 250 mg strength ciprofloxacin tablet was ground and dissolved in 25 mL of 50% solvent A / 50% (v/v) solvent B diluent. Solution was sonicated 10 min and filtered through 0.45µm nylon syringe filter (MicroSolv Tech Corp.). Sample for injection was diluted 1:10 with the same diluent.

**Peak:** Ciprofloxacin

**t<sub>0</sub>:** 0.9 min

## Discussion

Ciprofloxacin has several amine groups and therefore is susceptible to peak tailing in reverse phase methods. The USP assay method for ciprofloxacin tablets uses triethylamine as an ion pair agent to reduce tailing and in addition, phosphoric acid is included in the mobile phase. These conditions make the USP method incompatible with MS detection and therefore limit its applications. In this method using the Cogent Diamond Hydride column, only formic acid is required in order to obtain a peak that meets the system suitability specification for the API tailing factor.