Ciprofloxacin hydrochloride
PRODUCT DATA SHEET

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Product Name:	Ciprofloxacin hydrochloride
Product Number:	C032
CAS Number:	86393-32-0
Molecular Formula:	$C_{17}H_{18}FN_3O_3 \cdot HCl \cdot H_2O$
Molecular Weight:	385.82 g/mol
Form:	Powder
Appearance:	White or off-white crystalline powder
Solubility:	sparingly soluble in aqueous solution (1.1 µg/mL).
Source:	Synthetic
Water Content (Karl Fischer):	4.7-6.7%
pH:	3.0-4.5
Storage Conditions:	2-8 °C, protected from light.
Description:	Ciprofloxacin hydrochloride is a broad-spectrum second generation 4-fluoroquinolone antibiotic that targets the bacterial enzyme DNA gyrase and is effective against Gram-positive and Gram-negative bacteria and *Mycoplasmas*. Ciprofloxacin HCl is freely soluble in aqueous solution (35 mg/mL). TOKU-E offers two forms of Ciprofloxacin: • Ciprofloxacin hydrochloride (C032) • Ciprofloxacin (C031)
Mechanism of Action:	Fluoroquinolone antibiotics target bacterial DNA gyrase (topoisomerase type II), an enzyme which reduces DNA strain during replication and is essential for DNA packaging, transcription, and replication. Thus, DNA synthesis and cell division is inhibited.
Spectrum:	Ciprofloxacin is a broad spectrum antibiotic targeting a wide variety of Gram-positive and Gram-negative bacteria. It is also effective against Mycoplasmas.
Microbiology Applications	Ciprofloxacin HCl is commonly used in clinical *in vitro* microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against gram positive and gram negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. • For a complete list of ciprofloxacin MIC values, click here.

Plant Biology Applications

Garlic protoplasts were cultured in medium containing ciprofloxacin, and the compound was successful at preventing microbial growth and was not toxic to the protoplasts. (Fellner, 1995)

Cancer Applications

Two transitional cell carcinoma cell lines, MBT□2 and T24, were used in an *in vitro* study of the effects of ciprofloxacin on cell proliferation, and the compound was found to inhibit cell proliferation in a dose-dependent manner (Ebisuno et al, 1997).

References:

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