Add the following:

▪Mefloquine Hydrochloride Tablets

DEFINITION

Mefloquine Hydrochloride Tablets contain NLT 90.0% and NMT 110.0% of the labeled amount of mefloquine hydrochloride ($C_{17}H_{16}F_6N_2O \cdot HCl$).

IDENTIFICATION

- **A.** The retention time of the major peak of the *Sample solution* corresponds to that of the *Standard solution*, as obtained in the *Assay*.
- **B. ULTRAVIOLET ABSORPTION ⟨197U⟩**
  Diluent, Standard solution, and **Sample solution:** Proceed as directed in the *Assay*.
  Blank: *Diluent*

ASSAY

- **PROCEDURE**
  Buffer: 2.7 g/L of monobasic potassium phosphate. Adjust with phosphoric acid to a pH of 3.0 ± 0.1.
  Diluent: Methanol and water (23:27)
  Mobile phase: Methanol, acetonitrile, and *Buffer* (13:10:27)
  Standard solution: 0.05 mg/mL of USP Mefloquine Hydrochloride RS in *Diluent*
  Sensitivity solution: 0.025 µg/mL of USP Mefloquine Hydrochloride RS in *Diluent*
  Sample stock solution: Transfer a suitable number of Tablets to a volumetric flask, dilute with methanol (approximately 80% of the total volume), shake for 30 min, allow to sit for 1 h, and dilute with methanol to volume to obtain a solution having a concentration of 2.5 mg/mL of mefloquine hydrochloride.
  Sample solution: Nominally 0.05 mg/mL of mefloquine hydrochloride in *Diluent* from the *Sample stock solution*
  Chromatographic system
  (See *Chromatography* ⟨621⟩, *System Suitability*.)
  Mode: LC
  Detector: UV 222 nm
  Column: 4.6-mm × 15-cm; 5-µm packing L68
  Flow rate: 1 mL/min
  Injection size: 10 µL
  System suitability
  Samples: *Standard solution* and *Sensitivity solution*
  Suitability requirements
  Column efficiency: NLT 4000 theoretical plates, *Standard solution*
  Tailing factor: NMT 1.5, *Standard solution*
  Signal-to-noise ratio: NLT 5, *Sensitivity solution*
  Relative standard deviation: NMT 2.0%, *Standard solution*
  Analysis
  Samples: *Standard solution* and *Sample solution*
  Calculate the percentage of mefloquine hydrochloride ($C_{17}H_{16}F_6N_2O \cdot HCl$) in the portion of Tablets taken:

$$\text{Result} = (r_U/r_S) \times (C_S/C_U) \times 100$$

r_U = peak response from the *Sample solution*
r_S = peak response from the *Standard solution*
C_S = concentration of USP Mefloquine Hydrochloride RS in the *Standard solution* (mg/mL)
C_U = nominal concentration of mefloquine hydrochloride in the *Sample solution* (mg/mL)

Acceptance criteria: 90.0%–110.0%

PERFORMANCE TESTS

Change to read:

- **DISSOLUTION ⟨711⟩**
  •**Test 1**• (RB 1-Aug-2011)
  Medium: 0.1 N hydrochloric acid; 900 mL
  Apparatus 2: 50 rpm
  Time: 30 min
  Standard stock solution: 0.2 mg/mL of USP Mefloquine Hydrochloride RS in *Medium*. A small amount of methanol, not exceeding 5% of the final volume, may be used to help solubilize mefloquine.
  Standard solution: 0.04 mg/mL of USP Mefloquine Hydrochloride RS in *Medium* from the *Standard stock solution*
  Sample solution: Dilute a portion of the solution under test with *Medium* (1:5), and pass a portion through a suitable filter of 0.8-µm pore size.
  Instrumental conditions
  (See *Spectrophotometry and Light-Scattering* ⟨851⟩.)
  Mode: UV
  Analytical wavelength: 285 nm
  Cell length: 1 cm
  Blank: *Medium*
  Analysis
  Samples: *Standard solution* and *Sample solution*
  Calculate the percentage of mefloquine hydrochloride ($C_{17}H_{16}F_6N_2O \cdot HCl$) dissolved:

$$\text{Result} = (A_U/A_S) \times (C_S/L) \times D \times V \times 100$$

A_U = absorbance from the *Sample solution*
A_S = absorbance from the *Standard solution*
C_S = concentration of USP Mefloquine Hydrochloride RS in the *Standard solution* (mg/mL)
L = label claim (mg/Tablet)
D = dilution factor of the *Sample solution*
V = volume of *Medium*, 900 mL

  Tolerances: NLT 80% (Q) of the labeled amount of mefloquine hydrochloride ($C_{17}H_{16}F_6N_2O \cdot HCl$) is dissolved.
  •**Test 2:** If the product complies with this test, the labeling indicates that it meets USP *Dissolution Test 2*.
  Medium: 0.01 N hydrochloric acid; 900 mL
  Apparatus 2: 50 rpm
  Time: 30 min
  Standard solution: 0.278 mg/mL of USP Mefloquine Hydrochloride RS in *Medium*. A small amount of methanol, not exceeding 2.5% of the final volume, may be used to help solubilize mefloquine.
  Sample solution: Pass a portion of the solution under test through a suitable filter.
  Instrumental conditions
  (See *Spectrophotometry and Light-Scattering* ⟨851⟩.)
  Mode: UV
  Analytical wavelength: 284 nm
  Cell length: 0.2 cm
  Blank: *Medium*
  Analysis
  Samples: *Standard solution* and *Sample solution*
  Calculate the percentage of mefloquine hydrochloride ($C_{17}H_{16}F_6N_2O \cdot HCl$) dissolved:

$$\text{Result} = (A_U/A_S) \times (C_S/L) \times V \times 100$$

A_U = absorbance from the *Sample solution*
A_S = absorbance from the *Standard solution*

C_S = concentration of USP Mefloquine Hydrochloride RS in the *Standard solution* (mg/mL)
L = label claim (mg/Tablet)
V = volume of *Medium*, 900 mL

Tolerances: NLT 75% (Q) of the labeled amount of mefloquine hydrochloride ($C_{17}H_{16}F_6N_2O \cdot HCl$) is dissolved.● (RB 1-Aug-2011)

• **Uniformity of Dosage Units ⟨905⟩:** Meet the requirements

IMPURITIES

• **Organic Impurities**

Buffer, Diluent, Mobile phase, Standard solution, Sensitivity solution, Sample stock solution, Sample solution, Chromatographic system, and **System suitability:** Proceed as directed in the *Assay*.

Analysis

Samples: *Standard solution* and *Sample solution*

Calculate the percentage of each impurity in the portion of Tablets taken:

$$\text{Result} = (r_U/r_S) \times (C_S/C_U) \times 100$$

r_U = peak response of each impurity from the *Sample solution*
r_S = peak response of mefloquine hydrochloride from the *Standard solution*
C_S = concentration of USP Mefloquine Hydrochloride RS in the *Standard solution* (mg/mL)
C_U = nominal concentration of mefloquine hydrochloride in the *Sample solution* (mg/mL)

Acceptance criteria: See *Table 1*.

[NOTE—Do not include the threo isomer, a process impurity monitored in the drug substance, in the calculation of total impurities. Disregard any peak less than 0.05%.]

Table 1

Name	Relative Retention Time	Acceptance Criteria, NMT (%)
Specified (unidentified)	0.67	0.15
Specified (unidentified)	0.70	0.15
threo-Mefloquine (DL-*threo*-α-2-piperidyl-2,8-bis(trifluoromethyl)-4-quinolinemethanol)	0.75	—
Specified (unidentified)	0.84	0.25
Mefloquine hydrochloride	1.0	—
Any other unknown individual impurity	—	0.15
Total impurities	—	0.50

ADDITIONAL REQUIREMENTS

• **Packaging and Storage:** Preserve in tight, light-resistant containers. Store at controlled room temperature.

Add the following:

●• **Labeling:** When more than one *Dissolution* test is given, the labeling states the *Dissolution* test used only if *Test 1* is not used.● (RB 1-Aug-2011)

• **USP Reference Standards ⟨11⟩**

USP Mefloquine Hydrochloride RS■1S (*USP34*)