Status: Currently Official on 14-Feb-2025
Official Date: Official as of 01-May-2020
Document Type: USP Monographs
DocId: GUID-E274A291-20D9-4C3F-953C-A4CF34E49FF4_2_en-US
DOI: https://doi.org/10.31003/USPNF_M19865_02_01
DOI Ref: 7wp09

Colestipol Hydrochloride Tablets

» Colestipol Hydrochloride Tablets contain Colestipol Hydrochloride. Each Tablet binds not less than 1.1 mEq and not more than 1.6 mEq of sodium cholate per g of the labeled amount of colestipol hydrochloride, calculated as cholate binding capacity.

Packaging and storage—Preserve in tight containers, and store at controlled room temperature.

USP Reference standards ⟨11⟩—
USP Colestipol Hydrochloride RS

Change to read:

Identification, ▲**Spectroscopic Identification Tests** ⟨197⟩**,** *Infrared Spectroscopy*: **197K**▲ (CN 1-May-2020) —

Test specimen—Completely remove the coating film from a Tablet with a suitable implement, and grind the contents into fine powder. To about 30 to 40 mg of the powder, add about 15 mL of methanol, shake vigorously for 3 minutes, then sonicate for 10 minutes, and shake for another 3 minutes. Pass through a suitable paper filter, wash the residue 3 times, each time with 10 mL of methanol. [Note—A qualitative paper filter, with a coarse porosity and a particle retention 20-25 µm, is suitable.] Dry the residue at 60° in vacuum for 2 hours. Mix about 4 mg of the dried sample with about 150 mg of potassium bromide.

Standard specimen—Mix about 3 to 4 mg of USP Colestipol Hydrochloride RS with about 150 mg of potassium bromide.

Uniformity of dosage units—

Sodium chloride solution, Cholate solution, 0.09 M Buffer solution pH 2.5, Mobile phase, Standard preparation, and *Chromatographic system*—Proceed as directed in the test for *Cholate binding capacity*.

Test solution—Transfer 1 Tablet to a 100-mL volumetric flask, dilute with *Cholate solution* to volume, and stir for 120 minutes. Let the sample settle down for at least 10 minutes, and filter a portion using a 0.45-µm PVDF filter, discarding the first 5 mL of the filtrate.

Procedure—Proceed as directed in the test for *Cholate binding capacity,* except to inject the *Test solution* instead of the *Test preparation*.

Select not fewer than 30 Tablets. Test 10 Tablets individually as directed above. The requirements are met if the cholate binding capacity in each of the 10 Tablets lies within the range of 1.15 to 1.55 mEq per g of the labeled amount of colestipol hydrochloride, and the relative standard deviation is not more than 6.0%.

If 1 Tablet is outside the range of 1.15 to 1.55 mEq per g and no Tablet is outside the range of 1.01 to 1.69 mEq per g, or if the relative standard deviation is greater than 6.0%, or if both conditions prevail, test 20 additional Tablets. The requirements are met if not more than 1 Tablet of the 30 is outside the range of 1.15 to 1.55 mEq per g and no Tablet is outside the range of 1.01 to 1.69 mEq per g of the labeled amount of colestipol hydrochloride, and the relative standard deviation for 30 Tablets does not exceed 7.8%.

pH ⟨791⟩—Transfer 5 g of ground Tablets to a suitable flask, add 50 mL of deionized water, close the flask with a stopper, and stir for about 30 minutes or until the Tablets completely disintegrate. Centrifuge to obtain a clear supernatant: the pH is between 5.5 and 7.5.

Cholate binding capacity—

0.09 M Buffer solution pH 2.5—Dissolve 12.5 g of monobasic sodium phosphate in 1000 mL of water, and adjust with phosphoric acid to a pH of 2.5 ± 0.05.

Mobile phase—Prepare a mixture of *0.09 M Buffer solution pH 2.5,* acetonitrile, and methanol (50:36:14), mix, and degas. Make adjustments if necessary (see *System Suitability* under *Chromatography* ⟨621⟩).

Sodium chloride solution—Prepare a solution in water containing 9.0 mg of sodium chloride per mL.

Cholate solution—Transfer an accurately weighed quantity of sodium cholate to a suitable volumetric flask, add *Sodium chloride solution* to about 80% of the final volume, sonicate to dissolve, and dilute with *Sodium chloride solution* to volume to obtain a solution having a known concentration of 10.0 mg of sodium cholate per mL on the anhydrous basis. [Note—Determine the water content of sodium cholate titrimetrically at the time of use.] Adjust the solution by the dropwise addition of 0.5 N hydrochloric acid to a pH of 6.45 ± 0.05. [Note—Do not allow the pH to go below 6.40 at any time.] Use this solution as soon as possible after preparation.

Test preparation—Transfer 10 Tablets to a glass-stoppered 1.5-L flask. Add 1000.0 mL of *Cholate solution,* insert the stopper securely in the flask, and stir for 120 minutes. Filter a portion using a 0.45-µm PVDF filter, discarding the first 5 mL of the filtrate.

Standard preparation—Dilute a portion of the *Cholate solution* with *Sodium chloride solution,* to obtain a solution having a known concentration of about 4.0 mg of sodium cholate per mL.

Chromatographic system (see *Chromatography* ⟨621⟩)—The liquid chromatograph is equipped with a 220-nm detector and a 4.6-mm × 15-cm column that contains 5-µm packing L7. The flow rate is about 1.2 mL per minute. Chromatograph the *Standard preparation,* and record the peak responses as directed for *Procedure:* the column efficiency is not less than 2000 theoretical plates; the tailing is not more than 2.0; and the relative standard deviation for replicate injections is not more than 2.0%.

Procedure—Separately inject equal volumes (about 20 µL) of the *Standard preparation* and the *Assay preparation* into the chromatograph, record the chromatograms, and measure the responses for the major peaks. Calculate the concentration of the unbound cholate, C_T, in the *Test preparation* by the formula:

$$C_S \times (r_U/r_S)$$

in which C_S is the concentration, in mg per mL, of sodium cholate in the *Standard preparation;* and r_U and r_S are the cholate peak areas obtained from the *Test preparation* and the *Standard preparation,* respectively. Calculate the cholate binding capacity, in mEq per g of the labeled amount of colestipol hydrochloride, by the formula:

$$(1000/430.6)(C_{CH} - C_T)/NL$$

in which 1000 is a conversion coefficient to g; 430.6 is the molecular weight of sodium cholate; C_{CH} is the concentration, in mg per mL, of sodium cholate in the *Cholate solution; N* is the number of Tablets taken to prepare the *Test preparation;* and *L* is the labeled amount of colestipol hydrochloride, in g per Tablet.

Auxiliary Information - Please check for your question in the FAQs before contacting USP.

Topic/Question	Contact	Expert Committee
COLESTIPOL HYDROCHLORIDE TABLETS	Documentary Standards Support	SM22020 Small Molecules 2

Chromatographic Database Information: Chromatographic Database

Most Recently Appeared In:
Pharmacopeial Forum: Volume No. PF 33(5)

Current DocID: GUID-E274A291-20D9-4C3F-953C-A4CF34E49FF4_2_en-US
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