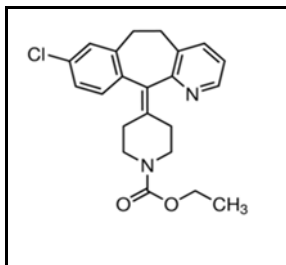


Loratadine
10 mg Tablet

Structure:



Molecular Formula and Mass: C₂₂H₂₃N₂O₂Cl - 382.88

Category: Antihistamine

Sample:

Grind 1 tablet and dissolve in 60.0 mL of 100% methanol. Shake at least 5 min.
Concentration of solution = 10.0 mg/60.0 mL = 0.167 mg/mL. The required concentration of the sample solution representing 100% is 0.167 mg/mL.

Standards:

High Standard:

The high limit is 115%; therefore the concentration of the high standard = (0.167 mg/mL X 1.15 = 0.192 mg/mL. Weigh approximately 9.60 mg of standard. If you weighed 9.50 mg of standard, dissolve it in: (9.50 mg)/(0.192 mg/mL) = 49.5 mL of methanol. This makes the high standard solution concentration equal to 0.192 mg/mL.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = (0.167 mg/mL) X 0.85 = 0.142 mg/mL. Dilute 1.00 mL of high standard to 1.35 mL by adding 0.35 mL of methanol (1.15/0.85 = 1.35).

Spotting:

Spot on the 5 X 10 cm silica gel TLC aluminium plate with 3 µL aliquots as follows:

Left spot	low standard (85%) = 0.425 µg
Center Spot	100% sample = 0.500 µg
Right Spot	high standard (115%) = 0.575 µg

Development:

Mix 30.00 mL of methanol with 0.90 mL concentrated ammonium hydroxide. Develop the plate in a small glass chamber with approximately 20.00 mL of this solution until the solvent front reaches within 1 cm of the top of the TLC plate. (R_f = 0.74)

Detection:

UV:

Dry the plate and observe under ultraviolet light at 254 nm. Observe the intensities and the sizes of the spots.

Developed and tested by Danhui Zhang and Joseph Sherma, Department of Chemistry, Lafayette College, Easton, PA, USA.