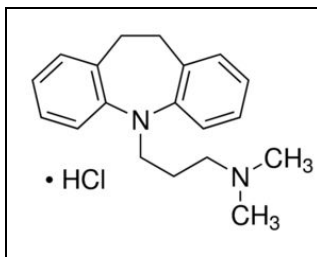


**Imipramine HCl**  
**25 mg Tablet**

**Structure:**



**Molecular Formula and Mass:** C<sub>19</sub>H<sub>24</sub>N<sub>2</sub> · HCl - 316.87

**Category:** Antidepressant

**Sample:**

Grind 1 tablet and dissolve in 25.00 mL of anhydrous ethanol. Shake at least 5 min. Concentration of solution = 25.0 mg/25.00 mL = 1.00 mg/mL. The required concentration of sample solution representing 100% is 1.00 mg/mL.

**Standards:**

High Standard:

The high limit is 115%; therefore the concentration of the high standard = (1.00 mg/mL X 1.15 = 1.15 mg/mL. Weigh approximately 28.8 mg of standard. If you weighed 28.5 mg of standard, dissolve it in: (28.5 mg)/(1.15 mg/mL) = 24.8 mL of ethanol. This makes the high standard solution concentration equal to 1.15 mg/mL.

Low Standard:

The low limit is 85%; therefore the concentration of the low standard = (1.00 mg/mL) X 0.85 = 0.85 mg/mL. Dilute 1.00 mL of high standard to 1.35 mL by adding 0.35 mL of ethanol (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%) = 2.55 µg
Center Spot	100% sample = 3.00 µg
Right Spot	high standard (115%) = 3.45 µg

**Development:**

Mix 24.00 mL of methanol and 0.25 mL of 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<sub>f</sub> = 0.43)

**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,  
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