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Clozaril

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C L O Z A R I L

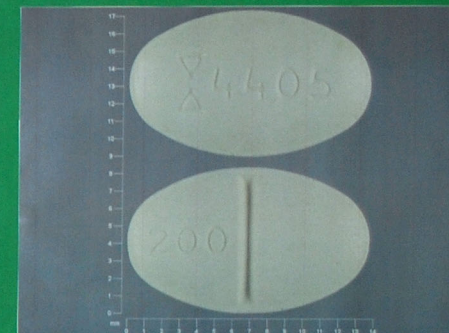
Generic Drug Name: Clozapine
Trade Names: Clozaril, Fazaclo, Versacloz
Classification: Atypical Antipsychotic

Water Solubility Literature Value:
 11.8 mg/L
Converting Solubility's Numerical Value to g/100 mL:
 $11.8 \text{ mg/L} (1 \text{ g}/1000 \text{ mg})(1 \text{ L}/1000 \text{ mL})(100/100) = 1.18 \times 10^{-3} \text{ g}/100 \text{ mL}$, insoluble

Calculating Molar Mass:
 18 moles C [(12.01 g)/(1 mol C)] = 216.18 g
 19 moles H [(1.01 g)/(1 mol H)] = 19.19 g
 1 mole Cl [(35.45 g)/(1 mol Cl)] = 35.45 g
 4 moles N [(14.01 g)/(1 mol N)] = 56.04 g
 $216.18 \text{ g} + 19.19 \text{ g} + 35.45 \text{ g} + 56.04 \text{ g} = 326.86 \text{ g/mol } C_{18}H_{19}ClN_4$
Literature Value for Molar Mass:
 326.83 g/mol

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Image of Clozaril:



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 CHE 106 Section 002

Dosing: 12.5 mg
How Supplied:

Oral Tab: 25 mg, 50 mg, 100 mg, 200 mg
 Oral Tab Orally Dis: 12.5 mg, 25 mg, 100 mg, 150 mg, 200 mg
 Oral Susp: 1 mL, 50 mg

Tablets per Chosen Dose:
 12.5 mg (1 tablet/12.5 mg)
 = 1.00 tablet

How the body takes in Clozaril:

Clozaril is taken orally. It is readily absorbed from the GI tract.

After the drug is absorbed:

Clozaril interferes with the binding of dopamine type 2 (D₂) and the serotonin type 2A (5-HT_{2A}) receptors. It inhibits the binding of the D₂ and 5-HT_{2A}. Clozaril also acts as an antagonist at adrenergic, cholinergic, histaminergic and other dopaminergic and serotonergic receptors.

Labeled Uses: The labeled use of Clozapine is to manage schizophrenia and schizoaffective disorder.

Unlabeled Uses: The unlabeled uses of Clozapine are treatment of bipolar disorder, dementia-related behavioral disorders, and tremors.

References:

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Chemical Name: 8-Chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo[b,e][1,4]diazepine
Chemical Formula: C₁₈H₁₉ClN₄

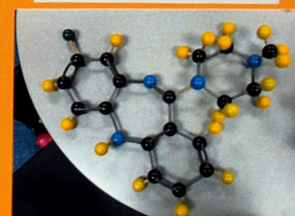
How the body breaks it down:

The liver is responsible for being the location of the Clozaril breakdown.

How the body eliminates it:

Clozaril is eliminated in urine and feces. Urine eliminates 50% of the Clozaril, and feces eliminates 30% of Clozaril.

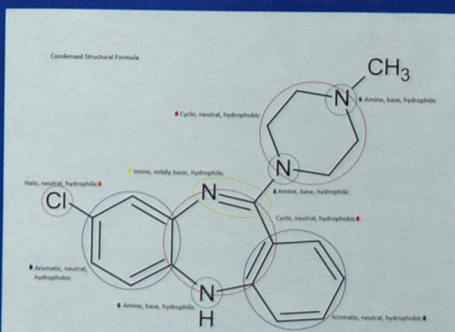
Expanded Structural Formula:



7

1

Clozaril Functional Groups:



7

4

8