2017

Benazepril Hydrochloride

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Recommended Citation

Nguyen, Tuan A., "Benazepril Hydrochloride" (2017). Natural Sciences Poster Sessions. 120.
https://spark.parkland.edu/nsps/120

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BENAZEPRIL HYDROCHLORIDE

Chemical Formula: \( C_{18}H_{29}N_2O_5 \cdot HCl \)

Generic Name: Benazepril Hydrochloride

Trade Names: Briam, Cibacen, Fortekor, Intensan

Classification of Drug: Antihypertensive; Renin Angiotensin System Antagonist

How It's Supplied: Benazepril Hydrochloride can be supplied in...
- 5 mg oral tablets
- 10 mg oral tablets
- 20 mg oral tablets
- 40 mg oral tablets

Dosage/Chosen Dose: 5 mg

How the Body Takes It In: Benazepril hydrochloride can be taken orally by mouth.

How the Body Breaks It Down: The body processes and breaks down benazepril HCl in the liver into benazepril (active metabolite) by separating/cutting it from the chemical bonds of benazepril.

How the Body Eliminates It: Benazepril HCl primarily comes out of the body through urine.

Literature Value of Molar Mass: 460.96 g/mol \( C_{18}H_{29}N_2O_5 \cdot HCl \)

How the Body Absorbs: Benazepril HCl is absorbed by means of the gastrointestinal tract where about 37% of it will be distributed throughout the body in about two to six hours

Literature Value After Converting to g/100 mL:
\[ \text{Molar Mass} \times \text{Density} = \frac{\text{Mass}}{\text{Volume}} \]

Water Solubility Literature Value: 2.229 mg/L

Benazepril HCl is not soluble in water.

Calculating Molar Mass:
1. 24 mol C \( \times \frac{12 \times 10^2} {1 \times 10^2} = 288.24 \) g C
2. 28 mol H \( \times \frac{1 \times 10^2} {1 \times 10^2} = 28.28 \) g H
3. 2 mol N \( \times \frac{14 \times 10^2} {1 \times 10^2} = 28.02 \) g N
4. 5 mol O \( \times \frac{16 \times 10^2} {1 \times 10^2} = 80 \) g O
5. 1 mol H \( \times \frac{1 \times 10^2} {1 \times 10^2} = 1.01 \) g H
6. 1 mol Cl \( \times \frac{35.45 \times 10^2} {1 \times 10^2} = 35.45 \) g Cl
7. 288.24 + 28.28 + 28.02 + 80 + 1.01 + 35.45 = 372.68 g

Molecular Model:

Tablets Per Chosen Dose: 5 tablets of Benazepril HCl

Functional Group Highlighted:
- Aromatic: Green
- Ketone: Orange
- Ester: Red