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Aminosalicyclic Acid (Paser)

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AMINOSALICYLIC ACID

Uses

The drug is used to treat tuberculosis along with other medication 1

Generic Names

- Aminosalicylic Acid 1
- Para-Aminosalicylic Acid 1

(PASER)

Trade Name

- Paser 1

Classification

- Antituberculosis 1

Chemical Formula

C₇H₇NO₃ 2

Body's Processing of the Drug

How does the body take the drug in

The drug is administered orally. It is supposed to be given with or immediately following meals to reduce the effect of irritative gas. The medicine is almost completely absorbed from gastrointestinal tract. The sodium form is more rapidly absorbed than the acid. 1

After the Drug is Absorbed

The drug is distributed to tissue and body fluids except the cerebrospinal fluid unless meninges are inflamed. Aminosalicylic acid suppresses the growth and multiplication on Mycobacterium tuberculosis by preventing the folic acid from synthesizing. The drug also has powerful hypolipemic action, which lowers the lipid level in the blood. 1

How does the body break down the drug

Once the body has used the drug it is metabolized in the liver. 1

How does the body eliminate the drug

Over 80% of the drug is eliminated in urine within 7 to 10 hours. 1

References:

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Chemical Names

4-Amino-2-hydroxybenzoic acid; 4-aminosalicylic acid 2

Water Solubility in words

Insoluble 3

Presence of Nonpolar Carbons/Polar

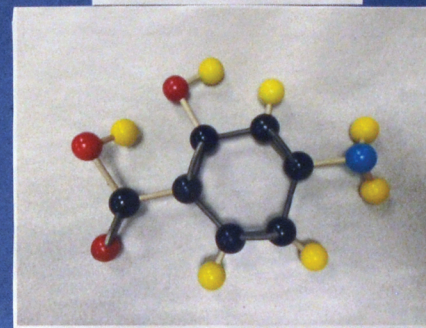
Functional Group Related to

Water Solubility

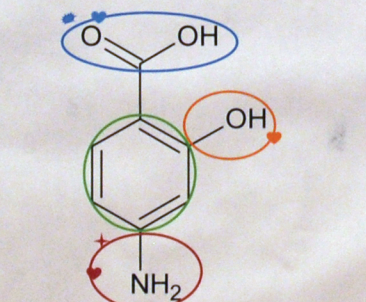
4 nonpolar carbons/3 polar functional groups
= 1 nonpolar carbons/ polar functional group

Water soluble, for every 4-6 nonpolar carbons, one polar functional group is sufficient to dissolve a molecule. 7

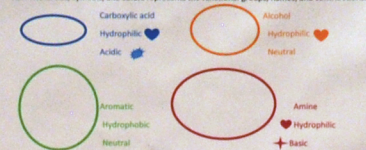
Expanded Structure



CONDENSED STRUCTURAL FORMULA



KEY: The circles, symbols, and colors represents the functional groups, names, and contributions.



Water Solubility literature Value

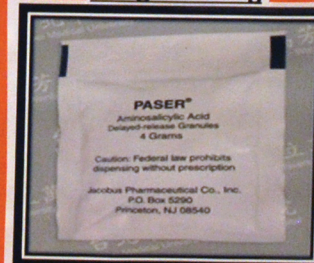
1690 $\frac{mg}{L}$ (at 23°C) 3

Water Solubility in g/100 mL

$$1690 \frac{mg}{L} \times \frac{g}{1000mg} \times \frac{L}{1000mL} = 0.00169 \frac{g}{100mL}$$

$$0.00169 \frac{g}{mL} \times \frac{100}{100} = 0.169 \frac{g}{100mL} 3$$

Image of Drug



How to calculate molar mass

Molar mass of each elements C, H, N, and O are

12.01 g C / 1 mol C, 1.01 g H / 1 mol H, 14.01 g N / 1 mol N, and 16.00 g O / 1 mol O

Carbon: 7 (12.01 g / 1 mol) = 84.07 g/mol

Hydrogen: 7 (1.01 g / 1 mol) = 7.07 g/mol

Nitrogen: 1 (14.01 g / 1 mol) = 14.01 g/mol

Oxygen: 3 (16.00 g / 1 mol) = 48.00 g/mol

84.07 g/mol + 7.07 g/mol + 14.01 g/mol + 48.00 g/mol = 153.15 g/mol

Molar mass of C₇H₇NO₃ = 153.15 $\frac{g}{mol}$ 9

Literature value for molar mass

153.14 $\frac{g}{mol}$ 2

Availability of the Drug

This drug is only available in granules, delayed-release 4 g/pkt. 4

Dosing-Chosen Dose

The smallest dose is 4 grams.

Tuberculosis

Adult/Adolescent/Child: PO 4 g

3 x day (max: 12 g)

The dosage for tuberculosis treatment for an adult is 4 grams Paser by mouth, three times a day. The maximum dose is 12 grams per day 1

Tablets per Chosen Dose

$$4g \times \frac{1pkt}{4g} = 1pkt 1$$