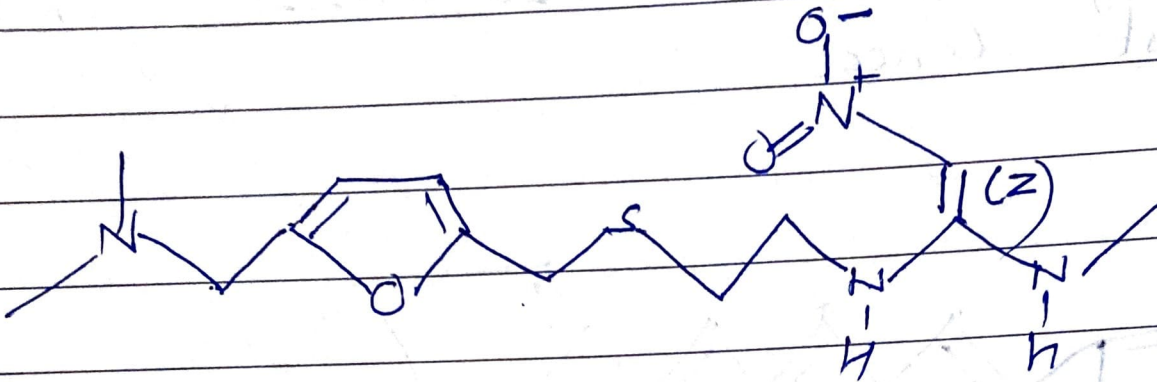
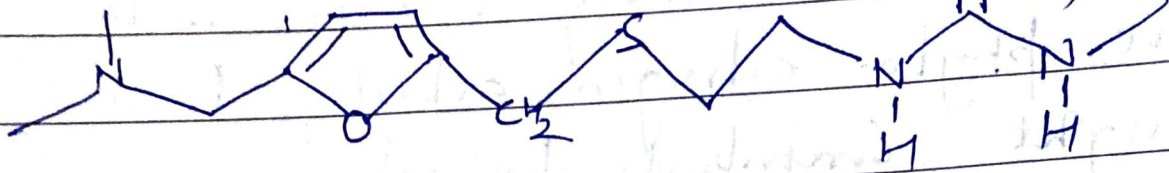


Ranitidine



Ranitidine is a complex molecule containing tertiary + secondary amino groups with a furan ring system.

its ~~is~~ trade name is Zantac & is a medication that decreases stomach acid production.

it can be taken by mouth, by injection into muscle, or into vein. [Puh-vahy-ile]

~~Action~~ Action

→ Ranitidine block the action of histamine at the histamine H_2 receptors of the Parietal Cell in the stomach. This decrease the production of stomach acid.

(Parietal cells → Acid secreting cell of stomach)

Medicinal use of Ranitidine

- Ranitidine is commonly used in the treatment of peptic ulcer disease (PUD)
(peptic ulcer or stomach ulcer, is a break in the lining of the stomach, first part of the small intestine or occasionally the lower esophagus)
(An ulcer in the stomach is known as the gastric ulcer while that in the first part of the intestines is called duodenal ulcer)
- Ranitidine is also useful in gastroesophageal reflux disease (GERD)
(GERD -) chronic condition caused by the stomach acid coming up from the stomach into the esophagus.
- Ranitidine is also used along with the antihistamines for the treatment of skin conditions such as hives (skin rash with red, raised, itchy bumps)
- Ranitidine heals acid related damage to the lining of the esophagus (tube that connects your mouth to stomach)

→ Ranitidine is also used in the treatment of Zollinger-Ellison Syndrome it is a rare disorder that occurs when one or more tumors form in the pancreas & duodenum. These tumors release large amount of gastrin that causes the stomach to produce large amount of acid.

(duodenum - first part of the small intestine (digestion occurs in duodenum))

(Pancreas is an organ that makes the hormone insulin & enzyme for digestion)

(Gastrin is a peptide hormone that stimulates secretion of gastric acid by the parietal cell of the stomach)

Dosage

The usual dose of ranitidine is either 150 mg twice a day or 300 mg Once every 24 h.

(for ulcer treatment, a 300 mg night time dose is best as the increase in pH promotes healing Overnight when the stomach & duodenum are empty)

Zantac $\rightarrow$ 150 mg
(ranitidine HCl)
ranitidine $\rightarrow$ 150 mg

$\rightarrow$ Ranitidine was discovered in 1976 at Glaxo Pharmaceuticals (GlaxoSmithKline)

Adverse effects

- $\rightarrow$ it reduces absorption of protein bound Vitamin - B₁₂ in human beings
- $\rightarrow$ H₂ blockers may reduce the absorption of drugs that require an acidic stomach.
- $\rightarrow$ Ranitidine may increase the risk of pneumonia
- $\rightarrow$ increases risk of heart attack, diarrhea,