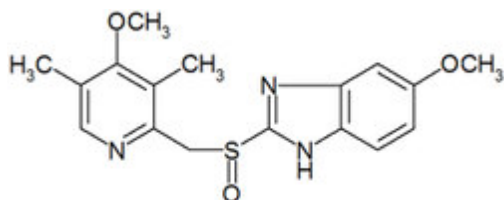


Omeprazole: An Overview

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Chemical structure



5-methoxy-2-[(4-methoxy-3,5-dimethyl-pyridin-2-yl)methylsulfinyl]-3H-benzimidazole

Molecular Weight: 345.417 g/mol

Melting Point: 156 °C

H₂O Solubility: 82.3 mg/L

State: Solid

Log P / Hydrophobicity: 1.166

Drug Category: Anti-ulcer Agents, Proton-pump Inhibitor.

Indication: For the treatment of gastroesophageal reflux disease.

Pharmacology: Omeprazole is a compound that inhibits gastric acid secretion and is indicated in the treatment of gastroesophageal reflux disease (GERD), the healing of erosive esophagitis, and H. pylori eradication to reduce the risk of duodenal ulcer recurrence. Omeprazole belongs to a new class of antisecretory compounds, the substituted benzimidazoles, that do not exhibit anticholinergic or H₂ histamine antagonistic properties, but that suppress gastric acid secretion by specific inhibition of the H⁺/K⁺ ATPase enzyme system at the secretory surface of the gastric parietal cell. Because this enzyme system is regarded as the acid (proton) pump within the gastric mucosa, omeprazole has been characterized as a gastric acid-pump inhibitor, in that it blocks the final step of acid production. This effect is dose-related and leads to inhibition

of both basal and stimulated acid secretion irrespective of the stimulus.

Mechanism of Action: Omeprazole is a proton pump inhibitor that suppresses gastric acid secretion by specific inhibition of the H⁺/K⁺-ATPase in the gastric parietal cell. By acting specifically on the proton pump, omeprazole blocks the final step in acid production, thus reducing gastric acidity.

Absorption: Absorption is rapid, absolute bioavailability (compared to intravenous administration) is about 30-40% at doses of 20-40 mg.

Toxicity: Symptoms of overdose include confusion, drowsiness, blurred vision, tachycardia, nausea, diaphoresis, flushing, headache, and dry mouth.

Protein Binding: 95%

Biotransformation: Hepatic.

Half Life: 0.5-1 hour

Dosage Forms: Oral tablets

Contraindications: hypersensitivity

Adverse reaction: anemia, U.T.I., urticaria, diarrhea, constipation, nausea, vomiting, abdominal pain, reversible confusion, delusion, hallucination, depression etc.

Marketed products:

S.no	Drug	Dosage form	Company name
1	Acichek	Capsule	Sanofi aventies
2	Avizol	Capsule	Avalanche
3	Biocid	Capsule	Biochem
4	Capocid	Capsule	PCI
5	Coszol	Capsule	CFL
6	Cozep	Capsule	NIPIL
7	Ezol	Capsule	Moraceae pharma
8	Lokit	Capsule	kramer
9	Lomac	Capsule	Cipla
10	Loress	Capsule	Bio E
11	Omag	Tablet	Ordain
12	Procid	Tablet	Triton
13	Tacko-M	Tablet	Systopic
14	Zaprocid	Tablet	triton

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