

Some of PPIs are shown in table (2) .

Table 2 : Some of Common PPIs

PPIs	Omeprazole	Lansoprazole	Pantoprazole	Rabeprazole	Esomeprazole
Chemical Name	C ₁₇ H ₁₉ N ₃ O ₃ S	C ₁₆ H ₁₄ F ₃ N ₃ OS	C ₁₆ H ₁₄ F ₂ N ₃ NaO ₄ S	C ₁₈ H ₂₀ N ₃ NaO ₃ S	C ₁₇ H ₁₉ N ₃ O ₃ S
Molecular weight	345.4	369.363	383.371	359.444	345.417
Bioavailability	30–40%	>80%	77%	52%	50–90%
Metabolism	Hepatic (CYP2C19)	Hepatic (CYP2C19, CYP3A4)	Hepatic (CYP2C19, CYP3A4)	Hepatic (CYP2C19, CYP3A4)	Hepatic (CYP2C19, CYP3A4)
Elimination Half-life	1 – 1.2 hours	1 – 1.5 hours	1 hour	1 – 1.5 hours	1–1.5 hours
Tmax	0.5-3.5	1.7	2.5	2-5	0.5-3.5
Excretion	80% Renal 20% Faecal	Renal 33% Biliary/feces- 66%	Renal 71% Feces 18%	Renal 90% Feces 10%	80% Renal 20% Faecal
Proprietary Name	PRILOSEC	PREVACID	PROTONIX	ACIPHEX	NEXIUM
Year of Approval (USFDA)	Jan 15, 1998	May 10, 1995	Feb 2000	Aug 19, 1999	Feb 20, 2001
Route of Administration	Oral, IV	Oral, IV	Oral, IV	Oral	Oral, IV

1.2 Esomeprazole

1.2.1 Pharmacology of Esomeprazole

Esomeprazole 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, esomeprazole blocks the final step in acid production, thus reducing gastric acidity (Scott LJ *et al.*, 2002).