

Some of PPIs are shown in table (2) .

Table 2 : Some of Common PPIs

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