Esomeprazole is the S-isomer of omeprazole, a proton pump inhibitor. Esomeprazole inhibits the gastric H+/K+ ATPase, preventing H+ secretion. Esomeprazole is clinically used to treat ulcers and gastroesophageal reflux disease (GERD). Esomeprazole exhibits anti-ulcer and anticancer chemotherapeutic activities. In vitro, esomeprazole induces autophagy by decreasing mTOR activity and induces caspase-dependent apoptosis, killing melanoma cells. In animal models, esomeprazole increases gastric antioxidant capacity and superoxide dismutase (SOD) activity, exhibiting some antioxidative benefit. Esomeprazole also induces apoptosis in osteoclasts and osteoblasts, potentially decreasing bone turnover. Additionally, this compound inhibits monoamine oxidase (MAO-A and MAO-B).

References


Caution: This product is intended for laboratory and research use only. It is not for human or drug use.