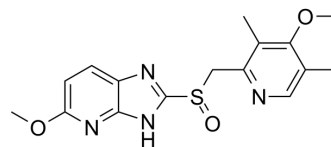


## Tenatoprazole

|                    |   |       |          |
|--------------------|---|-------|----------|
| Cat. No.:          | HY-17421  |       |          |
| CAS No.:           | 113712-98-4   |       |          |
| Molecular Formula: | C <sub>16</sub> H <sub>18</sub> N <sub>4</sub> O <sub>3</sub> S |       |          |
| Molecular Weight:  | 346.4   |       |          |
| Target:            | Proton Pump   |       |          |
| Pathway:           | Membrane Transporter/Ion Channel                                |       |          |
| Storage:           | Powder  | -20°C | 3 years  |
|                    |   | 4°C   | 2 years  |
|                    | In solvent  | -80°C | 6 months |
|                    |   | -20°C | 1 month  |



### SOLVENT & SOLUBILITY

|   |  |                          |              |            |            |
|---|--|--------------------------|--------------|------------|------------|
| In Vitro  | DMSO : 50 mg/mL (144.34 mM; ultrasonic and warming and heat to 60°C)   |                          |              |            |            |
|   |  | Solvent<br>Concentration | Mass<br>1 mg | 5 mg       | 10 mg      |
|   | Preparing Stock Solutions  | 1 mM                     | 2.8868 mL    | 14.4342 mL | 28.8684 mL |
|   |  | 5 mM                     | 0.5774 mL    | 2.8868 mL  | 5.7737 mL  |
| 10 mM   |  | 0.2887 mL                | 1.4434 mL    | 2.8868 mL  |            |
| Please refer to the solubility information to select the appropriate solvent. |  |                          |              |            |            |
| In Vivo   | 1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: ≥ 2.5 mg/mL (7.22 mM); Clear solution         |                          |              |            |            |
|   | 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: 2.5 mg/mL (7.22 mM); Suspended solution; Need ultrasonic |                          |              |            |            |
|   | 3. Add each solvent one by one: 10% DMSO >> 90% corn oil<br>Solubility: ≥ 2.08 mg/mL (6.00 mM); Clear solution                                   |                          |              |            |            |

### BIOLOGICAL ACTIVITY

|             |   |
|-------------|---|
| Description | Tenatoprazole (TU-199) is an orally active imidazopyridine-based proton pump inhibitor with a prolonged plasma half-life. Tenatoprazole inhibits hog gastric H <sup>+</sup> /K <sup>+</sup> -ATPase activity with an IC <sub>50</sub> of 6.2 μM. Tenatoprazole blocks the interaction of ubiquitin with the ESCRT-1 factor Tsg101, inhibits production of several enveloped viruses, including EBV <sup>[1][2][3]</sup> . |
| In Vitro    | Tenatoprazole (TU-199) (0.1, 0.2, 0.4 mg/kg; oral; single; Heidenhain-pouch dogs) dose-dependently suppresses gastric acid secretion stimulated by histamine infusion <sup>[4]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only.   |

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## REFERENCES

- [1]. Thomson AB, et al. Comparison of the effects of fasting morning, fasting evening and fed bedtime administration of tenatoprazole on intragastric pH in healthy volunteers: a randomized three-way crossover study. *Aliment Pharmacol Ther.* 2006;23(8):1179-1187.
- [2]. Uchiyama K, et al. Effects of TU-199, a novel H<sup>+</sup>, K<sup>(+)</sup>-ATPase inhibitor, on gastric acid secretion and gastroduodenal ulcers in rats. *Methods Find Exp Clin Pharmacol.* 1999;21(2):115-122.
- [3]. Mannemuddhu SS, et al. Prazoles Targeting Tsg101 Inhibit Release of Epstein-Barr Virus following Reactivation from Latency. *J Virol.* 2021;95(13):e0246620.
- [4]. Uchiyama K, et al. The long-lasting effect of TU-199, a novel H<sup>+</sup>, K<sup>(+)</sup>-ATPase inhibitor, on gastric acid secretion in dogs. *J Pharm Pharmacol.* 1999;51(4):457-464.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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