

## PEG400

Cat. No.:	HY-Y0873A
Target:	Others
Pathway:	Others
Storage:	Pure form -20°C 3 years 4°C 2 years

## PEG400

## SOLVENT &amp; SOLUBILITY

In Vitro	DMSO : 100 mg/mL (Need ultrasonic) H <sub>2</sub> O : 100 mg/mL (Need ultrasonic)
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## BIOLOGICAL ACTIVITY

Description	PEG400 is a strongly hydrophilic polyethylene glycol used as an excellent solvent for a large number of substances. PEG400 is widely used in a variety of pharmaceutical formulations.
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In Vivo	<p>Treatment of Fischer 344 rats with PEG400 at a constant volume of 1.0, 2.5 or 5.0 mL/kg body weight/day 5 days/wk for 13 week does not result in any mortality attributed to chemical toxicity or changes in haematology or clinical chemistry findings<sup>[1]</sup>.</p> <p>Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).</p> <p>The final concentration of PEG300 can go up to 50% in the formulations for intravenous and intramuscular injection without any toxic effects. In PEG400 based solubility-enabling formulations in oral delivery of lipophilic drugs, both the 60% and the 100% PEG-400 formulations allowed full solubilization of the dose throughout the entire gastrointestinal tract-like journey<sup>[2]</sup> <sup>[3]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
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## PROTOCOL

Animal Administration <sup>[1]</sup>	<p>Rats<sup>[1]</sup></p> <p>Fischer-344 rats (10/group/sex) are administered polyethylene glycol 400 (PEG400) by gavage at 1.0, 2.5 or 5.0 mL/kg (1. l, 2.8 and 5.6 g/kg, respectively) body weight/day 5 days/wk for 13 wk. Animals in the control group receive water by gavage (5.0 mL/kg body weight/treatment day). An additional 10 rats/sex/group are assigned to the control and high-dose groups for a 6-wk recovery period. Evaluation of potential renal toxicity is identified as a primary objective<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
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## REFERENCES

- [1]. Hermansky SJ, et al. Effects of polyethylene glycol 400 (PEG 400) following 13 weeks of gavage treatment in Fischer-344 rats. *Food Chem Toxicol.* 1995 Feb;33(2):139-49.
- [2]. Xiaoqin Wang, et al. Injectable silk-polyethylene glycol hydrogels. *Acta Biomater.* 2015 Jan;12:51-61.
- [3]. Avital Beig, et al. Striking the Optimal Solubility-Permeability Balance in Oral Formulation Development for Lipophilic Drugs: Maximizing Carbamazepine Blood Levels. *Mol Pharm.* 2017 Jan 3;14(1):319-327.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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