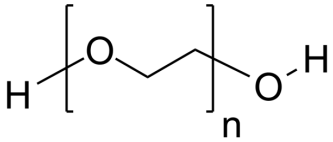
PEG400

Cat. No.:	HY-Y0873A
CAS No.:	25322-68-3
Molecular Weight:	400
Target:	Biochemical Assay Reagents
Pathway:	Others
Storage:	Pure form -20°C 3 years 4°C 2 years



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (250.00 mM; Need ultrasonic)
H_2O : 100 mg/mL (250.00 mM; Need ultrasonic)

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.

In Vivo

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[1].

Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).

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[2][3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [1]

Rats[1]

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[1].

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CUSTOMER VALIDATION

- Cancer Cell. 2022 Aug 26;S1535-6108(22)00372-5.
- Nat Neurosci. 2023 Mar 27.
- Nat Commun. 2023 May 24;14(1):2994.
- Autophagy. 2022 Nov 30.
- Pharmacol Res. 2023 Feb 17;189:106703.

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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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