# Terazosin hydrochloride dihydrate

**Cat. No.:** HY-B0371A

**CAS No.:** 70024-40-7

**Molecular Formula:** $C_{19}H_{30}ClN_5O_6$

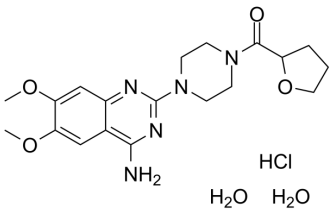
**Molecular Weight:** 459.92

**Target:** Adrenergic Receptor

**Pathway:** GPCR/G Protein; Neuronal Signaling

**Storage:** 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 31.25 mg/mL (67.95 mM; Need ultrasonic)

$H_2O$ : 12.5 mg/mL (27.18 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.1743 mL | 10.8715 mL | 21.7429 mL |
| 5 mM | 0.4349 mL | 2.1743 mL | 4.3486 mL |
| 10 mM | 0.2174 mL | 1.0871 mL | 2.1743 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 4.55 mg/mL (9.89 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.44 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.44 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.44 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Terazosin hydrochloride dihydrate is a quinazoline derivative and a competitive and orally active α1-adrenoceptor antagonist. Terazosin hydrochloride dihydrate works by relaxing blood vessels and the opening of the bladder. Terazosin hydrochloride dihydrate has the potential for benign prostatic hyperplasia (BPH) and high blood pressure treatment[1][2][3].

**$IC_{50}$ & Target**

α1-adrenoceptor[1]

| | |
|---|---|
| **In Vitro** | Terazosin does not discriminate cloned α1-adrenoceptor subtypes transiently expressed in COS cells[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Terazosin can be used to promote stone discharge in treatment of ureteral stones. Terazosin is reportedly safe and effective in treatment of distal ureteral stones, especially stones >5 mm[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Neurochem Int. 2020 Dec 16;104942.
- Research Square Preprint. 2022 Jul.
- Authorea. March 31, 2022.

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## REFERENCES

[1]. Michel MC, et al. Drugs for treatment of benign prostatic hyperplasia: affinity comparison at cloned alpha 1-adrenoceptor subtypes and in human prostate. J Auton Pharmacol. 1996 Feb;16(1):21-8.

[2]. Vincent J, et al. Pharmacological tolerance to alpha 1-adrenergic receptor antagonism mediated by terazosin in humans. J Clin Invest. 1992 Nov;90(5):1763-8.

[3]. Ju M, et al. Efficacy of combination terazosin and nifedipine therapy in postoperative treatment of distal ureteral stones after transurethral ureteroscopic lithotripsy. J Int Med Res. 2020 Apr;48(4):300060520904851.



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