# ABT-724 trihydrochloride

**Cat. No.:** HY-103409

**CAS No.:** 587870-77-7

**Molecular Formula:** $C_{17}H_{22}Cl_3N_5$

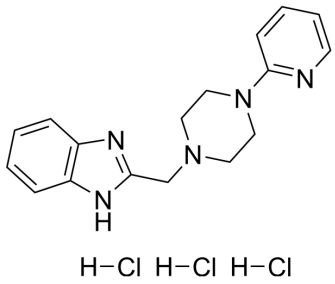
**Molecular Weight:** 402.75

**Target:** Dopamine 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**

$H_2O$ : ≥ 100 mg/mL (248.29 mM)

DMSO : 20 mg/mL (49.66 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.4829 mL | 12.4146 mL | 24.8293 mL |
| 5 mM | 0.4966 mL | 2.4829 mL | 4.9659 mL |
| 10 mM | 0.2483 mL | 1.2415 mL | 2.4829 mL |

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

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (248.29 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

ABT-724 trihydrochloride is a potent and highly selective dopamine $D_4$ receptor agonist with an $EC_{50}$ of 12.4 nM for human dopamine $D_4$ receptor. ABT-724 trihydrochloride is a potent partial agonist at the rat $D_4$ ($EC_{50}$ of 14.3 nM) and the ferret $D_4$ receptor ($EC_{50}$ of 23.2 nM), and has no effect on dopamine $D_1$, $D_2$, $D_3$, or $D_5$ receptors. ABT-724 trihydrochloride could be useful for the treatment of erectile dysfunction and has favorable side-effect profile[1].

| | |
|---|---|
| **$IC_{50}$ & Target** | $D_4$ Receptor |
| **In Vitro** | ABT-724 exhibits a selective biochemical profile, as indicates by a lack of binding affinity for >70 neurotransmitter/uptake/ion channels including $D_2$, $D_3$, or $D_5$ receptors up to a 10 μM concentration. A weak affinity to 5-$HT_{1A}$ receptors ($K_i$ = 2780 nM) is observed. ABT-724 does not inhibit the PDE activity of PDE1, PDE5, or PDE6 at 10 μM concentrations[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | ABT-724 (8.8 μg/kg; subcutaneous injection; daily; for 5 days; male adult Wistar rats) treatment dose-dependently facilitates penile erection when given s.c. to conscious rats[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

| | |
|---|---|
| Animal Model: | Male adult Wistar rats (~300 g)[1] |
| Dosage: | 8.8 μg/kg |
| Administration: | Subcutaneous injection; daily; for 5 days |
| Result: | Dose-dependently facilitated penile erection. |

## REFERENCES

[1]. Brioni JD, et al. Activation of dopamine D4 receptors by ABT-724 induces penile erection in rats. Proc Natl Acad Sci U S A. 2004 Apr 27;101(17):6758-63.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA