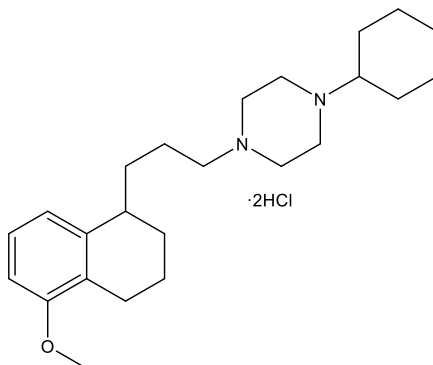


Catalog # 10-4665
PB28 dihydrochloride

CAS# 172907-03-8

1-Cyclohexyl-4-[3-(1,2,3,4-tetrahydro-5-methoxy-1-naphthalenyl)propyl]piperazine dihydrochloride

Lot # FBA6249



PB28 is a very potent high affinity ($K_i = 5.3 \text{ nM}^1$, 0.34 nM^2) σ_2 agonist. Selective for σ_2 over σ_1 (approx 30-40x).^{1,2} PB28 inhibited cell growth in MCF7 and MCF7 ADR breast cancer cells and displayed strong synergism with doxorubicin.³ PB28 potently inhibited Kv2.1 currents in a σ -independent manner.⁴ PB28 was recently found to have potent ($\text{IC}_{50} = 280 \text{ nM}$) anti-SARS-CoV2 activity.⁵

- 1) Berardi *et al.* (1996), *New σ and 5-HT_{1A} Receptor Ligands: ω -(Tetralin-1-yl)-n-alkylamine Derivatives*; J. Med. Chem. **39** 176
- 2) Berardi *et al.* (2004), *4-(Tetralin-1-yl)- and 4-(naphthalen-1-yl)alkyl Derivatives of 1-Cyclohexylpiperazine as σ Receptor Ligands with Agonist σ_2 Activity*; J. Med. Chem. **47** 2308
- 3) Azzariti *et al.* (2006), *Cyclohexylpiperazine derivative PB28, a σ_2 agonist and σ_1 antagonist receptor, inhibits cell growth, modulates P-glycoprotein, and synergizes with anthracyclins in breast cancer*; Mol. Cancer Ther. **5** 1807
- 4) Liu *et al.* (2017), *Potential independent action of sigma receptor ligands through inhibition of the Kv2.1 channel*; Oncotarget **8** 59345
- 5) Gordon *et al.* (2020), *A SARS-CoV-2 protein interaction map reveals targets for drug repurposing*; Nature **583** 459

PHYSICAL DATA

Molecular Weight:	443.50
Molecular Formula:	C ₂₄ H ₃₈ N ₂ O·2HCl
Purity:	>99% HPLC
	NMR: (Conforms)
Solubility:	Soluble in DMSO (>25 mg/ml); water (5 mg/mL)
Physical Description:	White to Off-white solid
Storage and Stability:	Store as supplied at -20°C for up to 1 year from the date of purchase. Store solutions at -20°C for up to 2 months.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.