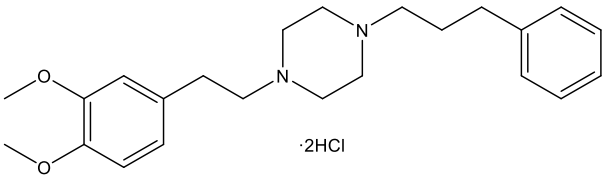
Catalog # 10-4219
SA4503

CAS# 165377-44-6

1-(3,4-Dimethoxyphenethyl)-4-(3-phenylpropyl)piperazine dihydrochloride; Cutamesine

Lot # JKM1238



SA4503 is a potent and selective sigma 1 agonist (σ1 IC_{50} = 17.4 nM, σ2 IC_{50} = 1784 nM).[1] It has been investigated as a cognition enhancer[2,3], antidepressant[4,5], anti-addiction agent[6], and neuroprotectant[7-10].

1) Matsuno *et al.* (1996), *Binding properties of SA4503, a novel and selective sigma 1 receptor agonist;* Eur. J. Pharmacol. **306** 271
2) Matsuno *et al.* (1997), *SA4503, a novel cognition enhancer with sigma 1 agonistic properties;* Behav. Brain Res. **83** 221
3) Niitsu *et al.* (2012), *Sigma-1 receptor agonists as therapeutic drugs for cognitive impairment in neuropsychiatric diseases;* Curr. Pharm. Des. **18** 875
4) Skuza and Rogoz *et al.* (2002), *A potential antidepressant activity of SA4503, a selective sigma 1 receptor agonist;* Behav.Pharmacol. **13** 537
5) Lucas *et al.* (2008), *Further evidence for an antidepressant potential of the selective sigma1 agonist SA4503: electrophysiological, morphological and behavioral studies;* Int. J.Neuropsychopharmacol. **11** 485
6) Mori *et al.* (2014), *Inhibitory effects of SA4503 on the rewarding effects of abused drugs;* Addict. Biol. **19** 362
7) Nakazawa *et al.* (1998), *Activation of sigma1 receptor subtype leads to neuroprotection in the rat primary neuronal cultures;* Neurochem. Int. **32** 337
8) Ruscher *et al.* (2011), *The sigma-1 receptor enhances brain plasticity and functional recovery after experimental stroke;* Brain **134(Pt.3)** 732
9) Ruscher *et al.* (2012), *Effects of the sigma-1 receptor agonist 1-(3,4-dimethoxyphenethyl)-4-(3-phenylpropyl)piperazine dihydrochloride on inflammation after stroke;* PLoS One. **7** e45118
10) Yamashita *et al.* (2015), *Neuroprotective effects of cutamesine, a ligand of the sigma-1 receptor chaperone, against noise-induced hearing loss;* Int. J.Neurosci. Res. **93** 788

PHYSICAL DATA

Molecular Weight:	441.43
Molecular Formula:	$C_{23}H_{32}N_2O_2 \cdot 2HCl$
Purity:	>98% TLC
	NMR: (Conforms)
Solubility:	Soluble in DMSO (5 mg/ml); Water (>25 mg/mL)
Physical Description:	White solid
Storage and Stability:	Store as supplied at -20ºC for up to 1 year from the date of purchase. Store solutions at -20ºC for up to 1 month.

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