Product Datasheet

EVP-6124 hydrochloride (orb1223102)

Catalog Number	orb1223102
Category	Small Molecules

Biorbyt Ltd.
7 Signet Court, Swann Road
Cambridge
CB5 8LA
United Kingdom
Email: info@biorbyt.com, support@biorbyt.com
Phone: +44 (0)1223 859353 | Fax: +1 (415) 651-8558

Biorbyt LLC
68 TW Alexander Drive
Research Triangle Park
Durham
NC 27713
United States
Email: info@biorbyt.com, support@biorbyt.com
Phone: +1 (415) 906-5211 | Fax: +1 (415) 651-8558

Description

EVP-6124 hydrochloride is a new-type partial agonist of α7 neuronal nicotinic acetylcholine receptors (nAChRs).(In Vitro):Encenicline (EVP-6124) displaces [3H]-MLA (Methyllycaconitine) (Ki=9.98 nM, pIC50=7.65±0.06, n=3) and [125I]-α-bungarotoxin (Ki=4.33 nM, pIC50=8.07±0.04, n=3). Encenicline (EVP-6124) is approximately 300 fold more potent than the natural agonist ACh (Ki=3 μM), measured in binding assays using [3H]-MLA. Encenicline hydrochloride inhibits the 5-HT3 receptor by 51% at 10 nM, the lowest concentration tested. Evaluation of the human 5-HT2B receptor expressed in CHO cells demonstrates displacement of [3H]-mesulergine (Ki=14 nM) and only antagonist activity in the rat gastric fundus assay at an IC50 of 16 μM. In binding and functional experiments, Encenicline (EVP-6124) shows selectivity for α7 nAChRs and does not activate or inhibit heteromeric α4β2 nAChRs.\n(In Vivo):Encenicline hydrochloride has good brain penetration and an adequate exposure time. Encenicline hydrochloride (0.3 mg/kg, p.o.) significantly restores memory function in scopolamine-treated rats (0.1 mg/kg, i.p.) in an object recognition task (ORT). Although donepezil at 0.1 mg/kg, p.o. or Encenicline hydrochloride at 0.03 mg/kg, p.o. did not improve memory in this task, co-administration of these sub-efficacious doses fully restored memory. In a natural forgetting test, an ORT with a 24 h retention time, Encenicline hydrochloride improved memory at 0.3 mg/kg, p.o. This improvement is blocked by the selective α7 nAChR antagonistmethyllycaconitine (0.3 mg/kg, i.p. or 10 μg, i.c.v.). Encenicline hydrochloride is found to bind moderately to rat plasma proteins with a mean fu of 0.11±0.01 (mean±SD) or 11%. Over a range of 0.1-30 mg/kg, p.o., Encenicline hydrochloride demonstrates proportional dose escalation. Tmax is at 4 h in plasma and 2 h brain, although the brain concentrations remained similar between 2 and 8 h. The B:P ratios are 1.7-5.1 between 1 and 8 h. Pharmacokinetic studies have shown that Encenicline hydrochloride (0.4 mg/kg, i.p.) reaches peak brain concentration 2 hr after administration and remains at effective concentrations for at least 4 hr.Encenicline hydrochloride is administered to WT mice at ZT0 (0.4 mg/kg i.p single dose) and significantly increases the saturation index of NMDARs in slices obtained 4 hr later without causing prolonged wakefulness or enhanced locomotor activity .

Target

α7 nAChR

Purity

>98% (HPLC)

MW

357.3

Target Areas

α7 nAChR

Biorbyt Ltd.
7 Signet Court, Swann Road
Cambridge
CB5 8LA
United Kingdom
Email: info@biorbyt.com, support@biorbyt.com
Phone: +44 (0)1223 859353 | Fax: +1 (415) 651-8558

Biorbyt LLC
68 TW Alexander Drive
Research Triangle Park
Durham
NC 27713
United States
Email: info@biorbyt.com, support@biorbyt.com
Phone: +1 (415) 906-5211 | Fax: +1 (415) 651-8558

Solubility (25°C)	DMSO : ≥ 50 mg/mL; 139.94 mM
CAS Number	550999-74-1
Formula	$C_{16}H_{17}ClN_2OS \cdot HCl$
SMILES	C1CN2C[C@@H](C1CC2)NC(=O)c1sc2c(c1)cccc2Cl.Cl
Storage	Storage temperature: -20°C. Stability: ≥ 2 years
Note	For research use only
Expiration Date	12 months from date of receipt.

Biorbyt Ltd.
7 Signet Court, Swann Road
Cambridge
CB5 8LA
United Kingdom
Email: info@biorbyt.com, support@biorbyt.com
Phone: +44 (0)1223 859353 | Fax: +1 (415) 651-8558

Biorbyt LLC
68 TW Alexander Drive
Research Triangle Park
Durham
NC 27713
United States
Email: info@biorbyt.com, support@biorbyt.com
Phone: +1 (415) 906-5211 | Fax: +1 (415) 651-8558