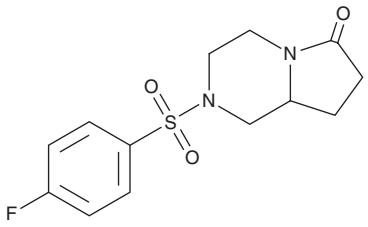
PRODUCT INFORMATION

Unifiram

Item No. 34209

CAS Registry No.:	272786-64-8
Formal Name:	2-[(4-fluorophenyl)sulfonyl]hexahydro-pyrrolo[1,2-a]pyrazin-6(2H)-one
Synonym:	DM232
MF:	$C_{13}H_{15}FN_2O_3S$
FW:	298.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 223 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Unifiram is supplied as a solid. A stock solution may be made by dissolving the unifiram in the solvent of choice, which should be purged with an inert gas. Unifiram is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of unifiram in ethanol is approximately 1 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Unifiram is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, unifiram should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Unifiram has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Unifiram is a nootropic agent.[1] It increases acetylcholine (ACh) release in the rat cerebral cortex *in vivo* and induces a long-lasting increase in the amplitude of field excitatory postsynaptic potentials (fEPSPs) in the rat hippocampal CA1 region (EC_{50} = 27 nM). It does not bind to serotonin (5-HT), dopamine, muscarinic, nicotinic, adrenergic, glutamate, histamine, opioid, or GABA receptors at 1 µM. Unifiram (0.1 mg/kg) improves memory in non-memory-impaired rats in a social learning test.[2] It also prevents memory deficits induced by the anticholinergic agent scopolamine, nicotinic receptor antagonist mecamylamine, $GABA_B$ receptor agonist baclofen, or α_2-adrenergic receptor agonist clonidine in the passive avoidance test in mice when administered at a dose of 0.01 mg/kg and prevents memory deficits induced by the AMPA/kainate glutamate receptor antagonist NBQX at 0.1 mg/kg.[1]

References

1. Romanelli, M.N., Galeotti, N., Ghelardini, C., *et al*. Pharmacological characterization of DM232 (unifiram) and DM235 (sunifiram), new potent cognition enhancers. *CNS Drug Rev*. **12(1)**, 39-52 (2006).
2. Ghelardini, C., Galeotti, N., Gualtieri, F., *et al*. The novel nootropic compound DM232 (unifiram) ameliorates memory impairment in mice and rats. *Drug Develop. Res*. **56(1)**, 23-32 (2002).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM