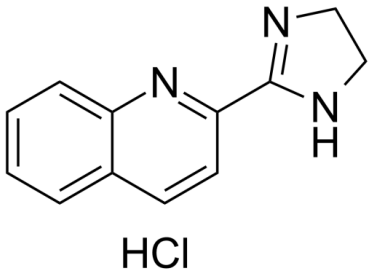
Data Sheet

Product Name:	BU224 (hydrochloride)
Cat. No.:	CS-0020941
CAS No.:	205437-64-5
Molecular Formula:	$C_{12}H_{12}ClN_3$
Molecular Weight:	233.70
Target:	Apoptosis; Imidazoline Receptor; TNF Receptor
Pathway:	Apoptosis; Neuronal Signaling
Solubility:	DMSO : 12.5 mg/mL (53.49 mM; ultrasonic and warming and heat to 60°C)



BIOLOGICAL ACTIVITY:

BU224 hydrochloride is a selective and high affinity **imidazoline I_2 receptor** ligand, with a **K_i** of 2.1 nM. BU224 hydrochloride is sometimes used as an I_2 receptor antagonist. BU224 hydrochloride exerts neuroprotective effects, with anti-inflammatory and anti-apoptotic properties. BU224 hydrochloride improves memory in 5XFAD mice, enlarging dendritic spines and reducing Aβ-induced changes in NMDARs. BU224 hydrochloride can be used for Alzheimer's disease research[1][2][3]. IC50 & Target: Ki: 2.1 nM (I_2)[1] **In Vivo:** BU224 hydrochloride (5 mg/kg, IP, twice a day for 10 days) improves behavioural performance and memory function in 5XFAD mice[1].

BU224 hydrochloride (5 mg/kg, IP, twice a day for 10 days) reduces levels of the microglial marker Iba1 and pro-inflammatory cytokines IL-1β and TNF-α and increased the expression of astrocytic marker GFAP in 5XFAD mice[1].

BU224 hydrochloride (10 mg/kg, IP, once) reduces immobility of rats in the FST (forced swim test), indicative of antidepressant-like activity[2].

References:

[1]. Mirzaei N, et al. Imidazoline ligand BU224 reverses cognitive deficits, reduces microgliosis and enhances synaptic connectivity in a mouse model of Alzheimer's disease. Br J Pharmacol. 2021 Feb;178(3):654-671.

[2]. Finn DP, et al. Behavioral, neuroendocrine and neurochemical effects of the imidazoline I2 receptor selective ligand BU224 in naive rats and rats exposed to the stress of the forced swim test. Psychopharmacology (Berl). 2003 May;167(2):195-202.

[3]. Qiu Y, et al. Discriminative stimulus effects of the imidazoline I2 receptor ligands BU224 and phenyzoline in rats. Eur J Pharmacol. 2015 Feb 15;749:133-41.

CAIndexNames:

Quinoline, 2-(4,5-dihydro-1H-imidazol-2-yl)-, hydrochloride (1:1)

SMILES:

C1(C2=NCCN2)=NC3=CC=CC=C3C=C1.Cl

Caution: Product has not been fully validated for medical applications. For research use only.

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