ore at RT	GBR-12909 Dihydrochloride	T C	ell Signaling
Sto		Orders:	877-616-CELL (2355) orders@cellsignal.com
24	10 mg	Support:	877-678-TECH (8324)
5172		Web:	info@cellsignal.com cellsignal.com
#		3 Trask Lane Danvers Mas	sachusetts 01923 USA
For Research Use Only. Not for Use in Diagnostic Procedures.			

Background	GBR-12909 Dihydrochloride is a highly selective synaptosomal dopamine uptake inhibitor ($K_i = 1 \text{ nM}$), with a 100-fold stronger affinity for the dopamine uptake carrier protein than noradrenaline and serotonin (1). GBR-12909 Dihydrochloride has also been demonstrated to be a strong sigma receptor ligand in rat brain samples with an IC ₅₀ value of 48 nM (2). This small molecule is considered to be a high-affinity, long-acting dopamine transporter (DAT) inhibitor and <i>in vivo</i> models show that intravenous injection of GBR-12909 Dihydrochloride blocks dopamine uptake within 5 seconds, matching the temporal effect of cocaine, with longer-acting and less negative behavioral effects (3). The ability to regulate dopamine uptake makes GBR-12909 Dihydrochloride a compound of interest when studying substance abuse issues like alcohol and cocaine addiction (4,5).
Molecular Formula	C ₂₈ H ₃₂ F ₂ N ₂ O • 2HCl
Molecular Weight	523.5 g/mol
Purity	>98%
CAS	67469-78-7
Solubility	Soluble in DMSO at 30 mg/ml or water at 10 mg/ml both with slight warming.
Storage	Store lyophilized at room temperature, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20°C and use within 1 month to prevent loss of potency. <i>Aliquot to avoid multiple freeze/thaw cycles.</i>
Directions for Use	GBR-12909 Dihydrochloride is supplied as a lyophilized powder. For a 15 mM stock, reconstitute 10 mg of powder in 1.27 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.
Background References	1. Andersen, P.H. (1989) <i>Eur J Pharmacol</i> 166, 493-504. 2. Contreras, P.C. et al. (1990) <i>Life Sci</i> 47, PL133-7. 3. Yorgason, J.T. et al. (2011) <i>Neuroscience</i> 182, 125-32. 4. Tella, S.R. et al. (1996) <i>J Neurosci</i> 16, 7416-27. 5. Kamdar, N.K. et al. (2007) <i>Psychopharmacology (Berl)</i> 192, 207-17.
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