bio-techne
TOCRIS

Print Date: Apr 28th 2023

Certificate of Analysis

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Product Name: **L-655,708** **Catalog No.: 1327** **Batch No.: 6**

CAS Number: 130477-52-0

IUPAC Name: 11,12,13,13a-Tetrahydro-7-methoxy-9-oxo-9*H*-imidazo[1,5-*a*]pyrrolo[2,1-*c*][1,4]benzodiazepine-1-carboxylic acid, ethyl ester

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{18}H_{19}N_3O_4$

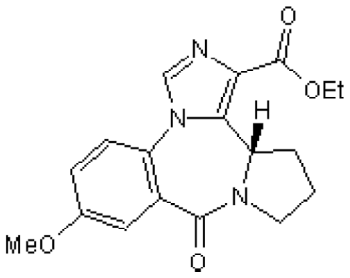
Batch Molecular Weight: 341.37

Physical Appearance: Off White solid

Solubility: DMSO to 25 mM

Storage: Desiccate at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.38 (Ethyl acetate:Methanol [98:2])

HPLC: Shows 99.2% purity

Chiral HPLC: Shows >99.8% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	63.33	5.61	12.31
Found	63.08	5.62	12.26

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Description:

L-655,708 is a potent, selective inverse agonist for the benzodiazepine site of $GABA_A$ receptors containing the α5 subunit (K_i = 0.45 nM). Displays 50-100-fold selectivity over $GABA_A$ receptors containing α1, α2, α3 or α6 subunits in combination with β3 and γ2. Enhances LTP in a mouse hippocampal slice model and increases spatial learning, without displaying proconvulsant activity.

Physical and Chemical Properties:

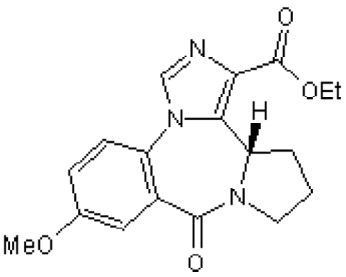
Batch Molecular Formula: $C_{18}H_{19}N_3O_4$

Batch Molecular Weight: 341.37

Physical Appearance: Off White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Desiccate at +4°C

Solubility & Usage Info:

DMSO to 25 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Atack *et al* (2006) L-655,708 enhances cognition in rats but is not proconvulsant at a dose selective for α5-containing $GABA_A$ receptors. Neuropharmacology ***51*** 1023. PMID: 17046030.

Sur *et al* (1998) Rat and human hippocampal α5 subunit-containing γ-aminobutyric $acid_A$ receptors have α5α3γ2 pharmacological characteristics. Mol.Pharmacol. ***54*** 928. PMID: 9804628.

Quirk *et al* (1996) [^{3}H]L-655,708, a novel ligand selective for the benzodiazepine site of $GABA_A$ receptors which contain the α5 subunit. Neuropharmacology ***35*** 1331. PMID: 9014149.