bio-techne
TOCRIS

Print Date: Mar 13th 2024

Certificate of Analysis

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Product Name: **ZJ 43** **Catalog No.: 2675** **Batch No.: 4**

CAS Number: 723331-20-2

IUPAC Name: *N*-[[[(1*S*)-1-Carboxy-3-methylbutyl]amino]carbonyl]-L-glutamic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{12}H_{20}N_2O_7$

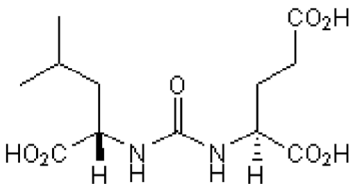
Batch Molecular Weight: 304.3

Physical Appearance: Off White solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 95.9% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	47.37	6.62	9.21
Found	46.99	6.56	8.87

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

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Description:

ZJ 43 is a potent inhibitor of glutamate carboxypeptidase II and III (GCP II and III/NAAG peptidase/NAALADase) (K_i values are 0.8 and 23 nM respectively) that inhibits the hydrolysis of NAAG (IC_{50} = 2.4 nM) . Does not directly interact with NMDA or metabotropic glutamate receptors. Reduces neuronal degeneration in a rat model of traumatic brain injury (TBI) and reduces locomotor activity in the PCP-model of schizophrenia.

Physical and Chemical Properties:

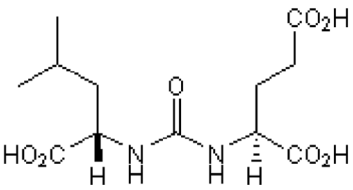
Batch Molecular Formula: $C_{12}H_{20}N_2O_7$

Batch Molecular Weight: 304.3

Physical Appearance: Off White solid

Minimum Purity: ≥95%

Batch Molecular Structure:



Storage: Store at -20°C. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

water to 100 mM
DMSO to 100 mM

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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.

Licensing Information:

Sold with the permission of Acenta Discovery, Inc.

References:

Yamamoto *et al* (2007) Local administration of *N*-acetylaspartylglutamate (NAAG) peptidase inhibitors is analgesic in peripheral pain in rats. Eur.J.Neurosci. ***25*** 147. PMID: 17241276.

Zhou *et al* (2005) NAAG peptidase inhibitors and their potential for diagnosis and therapy. Nat.Rev.Drug Discov. ***4*** 1015. PMID: 16341066.

Olszewski *et al* (2004) NAAG peptidase inhibition reduces locomotor activity and some stereotypes in the PCP model of schizophrenia via group II mGluR. J.Neurochem. ***89*** 876. PMID: 15140187.