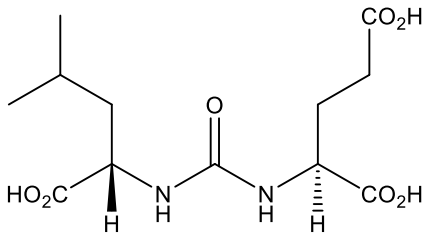
Catalog # 10-3904

ZJ43

CAS# 723331-20-2

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

Lot # JKM1202



ZJ43 is potent inhibitor of glutamate carboxypeptidases II (Ki = 0.8 nM) and III (Ki = 23 nM).[1] It potently (IC_{50} = 2.4 nM) inhibited the ability of glutamate carboxypeptidase II to hydrolyze the neurotransmitter N-acetylaspartylglutamate (NAAG) resulting in an increase in synaptic levels of group II mGluRs. Peripherally administered ZJ43 increased the activation of mGluR3 by NAAG released from peripheral sensory neurites resulting in analgesia.[2,3] ZJ43 has also shown efficacy in other inflammatory pain models.[4,5]

1) 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
2) Yamamoto *et al.* (2004), *Antinociceptive effects of N-acetylaspartylglutamate (NAAG) peptidase inhibitors ZJ-11, ZJ-17 and ZJ-43 in the rat formalin test and in the rat neuropathic pain model;* Eur. J. Neurosci. **20** 483
3) Yamamoto *et al.* (2007), *Local administration of N-acetylaspartylglutamate (NAAG) peptidase inhibitors is analgesic in peripheral pain in rats;* Eur. J. Neurosci. **25** 147
4) Yamamoto *et al.* (2008), *Intracerebroventricular administration of N-acetylaspartylglutamate (NAAG) peptidase inhibitors is analgesic in inflammatory pain;* Mol. Pain **4** 31
5) Nonaka *et al.* (2017), *A role for the locus coeruleus in the analgesic efficacy of N-acetylaspartylglutamate peptidase (GCPII) inhibitors ZJ43 and 2-PMPA;* Mol.Pain **13** 1

PHYSICAL DATA

Molecular Weight:	304.30
Molecular Formula:	$C_{12}H_{20}N_2O_7$
Purity:	>98% HPLC
	NMR: (Conforms)
Solubility:	Soluble in DMSO (>25 mg/ml); water (>25 mg/mL)
Physical Description:	White solid
Storage and Stability:	Store as supplied at -20ºC for up to 1 year from the date of purchase. Store solutions at -20ºC for up to 2 months. Very hygroscopic.

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