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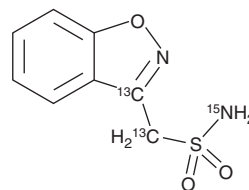
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PRODUCT INFORMATION



Zonisamide-¹³C₂, ¹⁵N Item No. 28807

CAS Registry No.: 1188265-58-8
Formal Name: 1,2-benzisoxazole-3-¹³C-3-methane-¹³C-sulfonamide-¹⁵N
MF: C₆[¹³C]₂H₈N[¹⁵N]O₃S
FW: 215.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Zonisamide-¹³C₂, ¹⁵N is supplied as a solid. A stock solution may be made by dissolving the zonisamide-¹³C₂, ¹⁵N in the solvent of choice, which should be purged with an inert gas. Zonisamide-¹³C₂, ¹⁵N is slightly soluble in DMSO and methanol.

Description

Zonisamide-¹³C₂, ¹⁵N is intended for use as an internal standard for the quantification of zonisamide (Item No. 24183) by GC- or LC-MS. Zonisamide is an antiepileptic agent.¹ It selectively inhibits the repeated firing of sodium channels (IC₅₀ = 2 µg/ml) in mouse embryo spinal cord neurons and inhibits spontaneous channel firing when used at concentrations greater than 10 µg/ml.² In rat cerebral cortex neurons, zonisamide (1-1,000 µM) inhibits T-type calcium channels with a maximum reduction of 60% of the calcium current.³ Zonisamide inhibits *H. pylori* recombinant carbonic anhydrase (CA) and the human CA isoforms I, II, and V with K_i values of 218, 56, 35, and 21 nM, respectively.^{4,5} In mice, it has anticonvulsant activity against maximal electroshock seizure (MES) and pentylenetetrazole-induced maximal, but not minimal, seizures (ED₅₀s = 19.6, 9.3, and >500 mg/kg, respectively). Zonisamide (40 mg/kg, p.o.) prevents MPTP-induced decreases in the levels of dopamine (Item No. 21992), but not homovanillic acid (HVA; Item No. 27307) or dihydroxyphenyl acetic acid (DOPAC; Item No. 24912), and increases MPTP-induced decreases in the dopamine turnover rate in mouse striatum in a model of Parkinson's disease.⁶ Formulations containing zonisamide have been used in the treatment of partial seizures in adults with epilepsy.

References

1. Masuda, Y., Ishizaki, M., and Shimizu, M. *CNS Drug Rev.* **4(4)**, 341-360 (1998).
2. Rock, D.M., Macdonald, R.L., and Taylor, C.P. *Epilepsy Res.* **3(2)**, 138-143 (1989).
3. Suzuki, S., Kawakami, K., Nishimura, S., et al. *Epilepsy Res.* **12(1)**, 21-27 (1992).
4. Nishimori, I., Vullo, D., Minakuchi, T., et al. *Bioorg. Med. Chem. Lett.* **16(8)**, 2182-2188 (2006).
5. De Simone, G., Di Fiore, A., Menchise, V., et al. *Bioorg. Med. Chem. Lett.* **15(9)**, 2315-2320 (2005).
6. Yabe, H., Choudhury, M.E., Kubo, M., et al. *J. Pharmacol. Sci.* **110(1)**, 64-68 (2009).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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