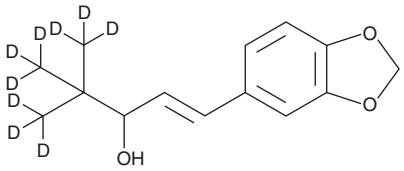
PRODUCT INFORMATION

Stiripentol-d_9

Item No. 28506

CAS Registry No.:	1185239-64-8
Formal Name:	1-(1,3-benzodioxol-5-yl)-4,4-dimethyl-d_3-1-penten-5,5,5-d_3-3-ol
MF:	$C_{14}H_9D_9O_3$
FW:	243.3
Chemical Purity:	≥98% (Stiripentol)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_9); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Stiripentol-d_9 is intended for use as an internal standard for the quantification of stiripentol (Item No. 17781) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Stiripentol-d_9 is supplied as a solid. A stock solution may be made by dissolving the stiripentol-d_9 in the solvent of choice, which should be purged with an inert gas. Stiripentol-d_9 is soluble in chloroform.

Description

Stiripentol is a third-generation antiepileptic compound.[1] It is a positive allosteric modulator of $GABA_A$ receptors, potentiating GABA-mediated activation to a greater extent in receptors expressing α_3 subunits and to a lower extent in those containing β_1 or ε subunits.[2] It also inhibits GABA reuptake *in vitro* and increases the release of GABA in neonatal rat hippocampal slices.[1,3] Stiripentol (500 µM) inhibits lactate dehydrogenase (LDH), blocking both lactate-to-pyruvate and pyruvate-to-lactate conversions by human LDH1 and LDH5.[4] Formulations containing stiripentol have been used in the adjunctive treatment of seizures associated with Dravet syndrome.

References

1. Luszczki, J.J. Third-generation antiepileptic drugs: Mechanisms of action, pharmacokinetics and interactions. *Pharmacol. Rep.* **61(2)**, 197-216 (2009).
2. Fisher, J.L. The anti-convulsant stiripentol acts directly on the $GABA_A$ receptor as a positive allosteric modulator. *Neuropharmacology* **56(1)**, 190-197 (2009).
3. Quilichini, P.P., Chiron, C., Ben-Ari, Y., *et al*. Stiripentol, a putative antiepileptic drug, enhances the duration of opening of $GABA_A$-receptor channels. *Epilepsia* **47(4)**, 704-716 (2006).
4. Sada, N., Lee, S., Katsu, T., *et al*. Targeting LDH enzymes with a stiripentol analog to treat epilepsy. *Science* **347(6228)**, 1362-1367 (2015).

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