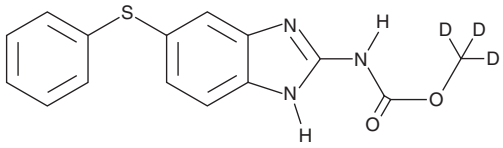
PRODUCT INFORMATION

Fenbendazole-d_3

Item No. 27842

CAS Registry No.:	1228182-47-5
Formal Name:	methyl-d_3 (5-(phenylthio)-1H-benzo[d] imidazol-2-yl)carbamate
Synonym:	Methyl 5-(phenylthio)-2-benzimidazolecarbamate-d_3
MF:	$C_{15}H_{10}D_3N_3O_2S$
FW:	302.4
Chemical Purity:	≥98% (Fenbendazole)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤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

Fenbendazole-d_3 is intended for use as an internal standard for the quantification of fenbendazole (Item No. 19687) 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).

Fenbendazole-d_3 is supplied as a solid. A stock solution may be made by dissolving the fenbendazole-d_3 in the solvent of choice, which should be purged with an inert gas. Fenbendazole-d_3 is slightly soluble in methanol and DMSO.

Description

Fenbendazole is a benzimidazole anthelmintic.[1] It is active against *Giardia in vitro* (IC_{50} = 0.3 µM). Fenbendazole (20 mg/kg) prevents infiltration of parasites into the brain in a rabbit model of *E. cuniculi* infection.[2] It also activates HIF-1α and prevents oxidative stress-induced death in primary neurons *in vitro*.[3]

References

1. Morgan, U.M., Reynoldson, J.A., and Thompson, R.C.A. Activities of several benzimidazoles and tubulin inhibitors against *Giardia* spp. in vitro. *Antimicrob. Agents Chemother.* **37(2)**, 328-331 (1993).
2. Suter, C., Müller-Doblies, U.U., Hatt, J.-M., *et al.* Prevention and treatment of *Encephalitozoon cuniculi* infection in rabbits with fenbendazole. *Vet. Rec.* **148(15)**, 478-480 (2001).
3. Aleyasin, H., Karuppagounder, S.S., Kumar, A., *et al.* Antihelminthic benzimidazoles are novel HIF activators that prevent oxidative neuronal death *via* binding to tubulin. *Antioxid. Redox Signal.* **22(2)**, 121-134 (2015).

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