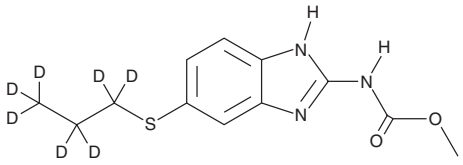
PRODUCT INFORMATION

Albendazole-d_7

Item No. 33542

CAS Registry No.: 1287076-43-0
Formal Name: methyl (5-((propyl-d_7)thio)-1H-benzo[d] imidazol-2-yl)carbamate
Synonym: ABZ-d_7
MF: $C_{12}H_8D_7N_3O_2S$
FW: 272.4
Chemical Purity: ≥95% (Albendazole)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_7); ≤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

Albendazole-d_7 is intended for use as an internal standard for the quantification of albendazole (Item No. 23705) 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).

Albendazole-d_7 is supplied as a solid. A stock solution may be made by dissolving the albendazole-d_7 in the solvent of choice, which should be purged with an inert gas. Albendazole-d_7 is slightly soluble in methanol and DMSO.

Description

Albendazole is an orally bioavailable benzimidazole anthelmintic that is active against a variety of helminths, including liver flukes, tapeworms, and roundworms.[1] It eliminates *Trichostrongylus* in the fourth stomach of cattle and sheep when orally administered at doses ranging from 2.5 to 10 mg/kg as well as other species in the fourth stomach and the small and large intestine. Albendazole (0.05% in the diet) protects mice against lethal infection with *A. suum* larvae. It also inhibits growth of HT-29 human colorectal cancer cells (IC_{50} = 0.12 µM), halts the cell cycle at the G_2/M phase, and induces apoptosis. In an HT-29 mouse xenograft model, it inhibits peritoneal tumor growth when administered intraperitoneally at a dose of 150 mg/kg but not when administered orally.[2] Albendazole inhibits mammalian tubulin polymerization and inhibits binding of [^{3}H]mebendazole to *H. contortus* L3 larval tubulin (IC_{50}s = 6.9 and 0.21 µM, respectively).[3] Formulations containing albendazole have been used in the treatment of tapeworm infections and in a variety of nematode infections in livestock and pets.

References

1. Theodorides, V.J., Gyurik, R.J., Kingsbury, W.D., *et al.* Anthelmintic activity of albendazole against liver flukes, tapeworms, lung and gastrointestinal roundworms. *Experientia* **32(6)**, 702-703 (1976).
2. Pourgholami, M.H., Akhter, J., Wang, L., *et al.* Antitumor activity of albendazole against the human colorectal cancer cell line HT-29: *In vitro* and in a xenograft model of peritoneal carcinomatosis. *Cancer Chemother. Pharmacol.* **55(5)**, 425-432 (2005).
3. Lacey, E. Mode of action of benzimidazoles. *Parasitol. Today* **6(4)**, 112-115 (1990).

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.

WARRANTY AND LIMITATION OF REMEDY
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