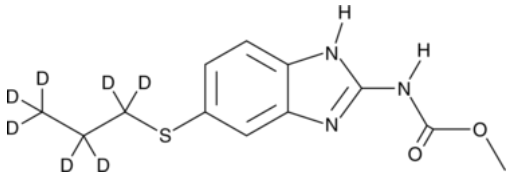
# Product Data Sheet

Product Name: Albendazole-d7
Cat. No.: GC48848

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 1287076-43-0 | | |
| SMILES | COC(NC1=NC2=CC(SC([2H])([2H])C([2H])([2H])C([2H])([2H])[2H])=CC=C2N1)=O | | |
| Formula | C12H8D7N3O2S | M.Wt | 272.4 |
| Solubility | DMSO: slightly soluble,Methanol: slightly soluble | Storage | -20°C |
| General tips | For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months. | | |
| Shipping Condition | Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request. | | |

Structure




## Background

Albendazole-$d_7$ is intended for use as an internal standard for the quantification of albendazole by GC- or LC-MS. 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]

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Formulations containing albendazole have been used in the treatment of tapeworm infections and in a variety of nematode infections in livestock and pets.

1.Theodorides, V.J., Gyurik, R.J., Kingsbury, W.D., et al.Anthelmintic activity of albendazole against liver flukes, tapeworms, lung and gastrointestinal roundwormsExperientia32(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 carcinomatosisCancer Chemother. Pharmacol.55(5)425-432(2005) 3.Lacey, E.Mode of action of benzimidazolesParasitol. Today6(4)112-115(1990)

***Caution: Product has not been fully validated for medical applications. For research use only.***
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