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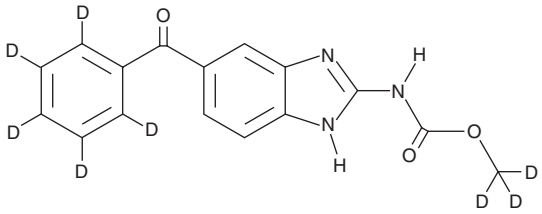
PRODUCT INFORMATION

Mebendazole-d_8

Item No. 40232

CAS Registry No.:	1286787-80-1
Formal Name:	methyl-d_3 (6-(benzoyl-2,3,4,5,6-d_5)-1H-benzo[d]imidazol-2-yl)carbamate
Synonym:	R 17635-d_8
MF:	$C_{16}H_5D_8N_3O_3$
FW:	303.3
Chemical Purity:	≥95% (Mebendazole)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_8); ≤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

Mebendazole-d_8 is intended for use as an internal standard for the quantification of mebendazole (Item No. 18872) 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).

Mebendazole-d_8 is supplied as a solid. A stock solution may be made by dissolving the mebendazole-d_8 in the solvent of choice, which should be purged with an inert gas. Mebendazole-d_8 is slightly soluble in DMSO and methanol.

Description

Mebendazole is an inhibitor of microtubule polymerization and an anthelmintic.[1] It reduces microtubule polymerization in a cell-free assay when used at a concentration of 10 µM. Mebendazole reduces container attachment, a measure of viability, by *G. duodenalis* with a half-maximal inhibition of binding (IB_{50}) value of 190 nM.[2] It reduces the proliferation of SK-MEL-19 and M14 melanoma cell lines (IC_{50}s = 300 and 320 µM, respectively) and induces apoptosis and poly(ADP-ribose) polymerase (PARP) cleavage in SK-MEL-19 and M14 cells, but not melanocytes, when used at a concentration of 1 µM.[3] It decreases oxidative stress-induced cell death in primary mouse cortical neurons in a concentration-dependent manner.[1] *In vivo*, mebendazole (800 µg/animal every other day) decreases tumor volume, weight, hemoglobin levels, and vascularization in an H460 lung cancer mouse xenograft model.[4] Mebendazole (8.8 mg/kg) eradicates *S. vulgaris*, *S. edentates*, and *S. equinus* worm burden in infected ponies.[5] Formulations containing mebendazole have been used in the treatment of helminth gastrointestinal infections.

References

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3. Doudican, N., Rodriguez, A., Osman, I., *et al. Mol. Cancer Res.* **6(8)**, 1308-1315 (2008).
4. Mukhopadhyay, T., Sasaki, J.i., Ramesh, R., *et al. Clin. Cancer Res.* **8(9)**, 2963-2969 (2002).
5. Colglazier, M.L., Enzie, F.D., and Kates, K.C. *J. Parasitol.* **63(4)**, 724-727 (1977).

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