

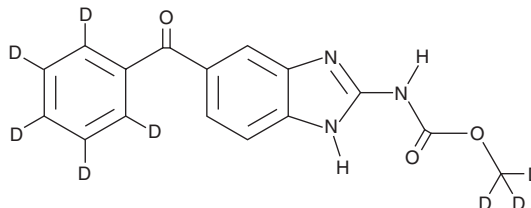
PRODUCT INFORMATION



Mebendazole-d₈

Item No. 40232

CAS Registry No.: 1286787-80-1
Formal Name: methyl-d₃ (6-(benzoyl-2,3,4,5,6-d₅)-1H-benzo[d]imidazol-2-yl)carbamate
Synonym: R 17635-d₈
MF: C₁₆H₅D₈N₃O₃
FW: 303.3
Chemical Purity: ≥95% (Mebendazole)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₈); ≤1% d₀
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-d₈ 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-d₈ is supplied as a solid. A stock solution may be made by dissolving the mebendazole-d₈ in the solvent of choice, which should be purged with an inert gas. Mebendazole-d₈ 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 (IB₅₀) value of 190 nM.² It reduces the proliferation of SK-MEL-19 and M14 melanoma cell lines (IC₅₀s = 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

1. Aleyasin, H., Karuppagounder, S.S., Kumar, A., et al. *Antioxid. Redox Signal.* **22(2)**, 121-134 (2015).
2. Morgan, U.M., Reynoldson, J.A., and Thompson, R.C.A. *Antimicrob. Agents Chemother.* **37(2)**, 328-331 (1993).
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).

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.

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