

## Product Data Sheet

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Product Name: Artemisinin-d3

Cat. No.: GC46882

### Chemical Properties

Cas. No. 176652-07-6

SMILES [H][C@]12[C@@H](C([2H])([2H])[2H])C(O[C@@]3([H])[C@@]1(OO4)[C@](CC[C@]4(C)O3)([H])[C@H](C)CC2)=O

Formula C<sub>15</sub>H<sub>19</sub>D<sub>3</sub>O<sub>5</sub> M.Wt 285.4

Solubility DMSO: Slightly soluble, Methanol: Slightly soluble Storage Store at -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.

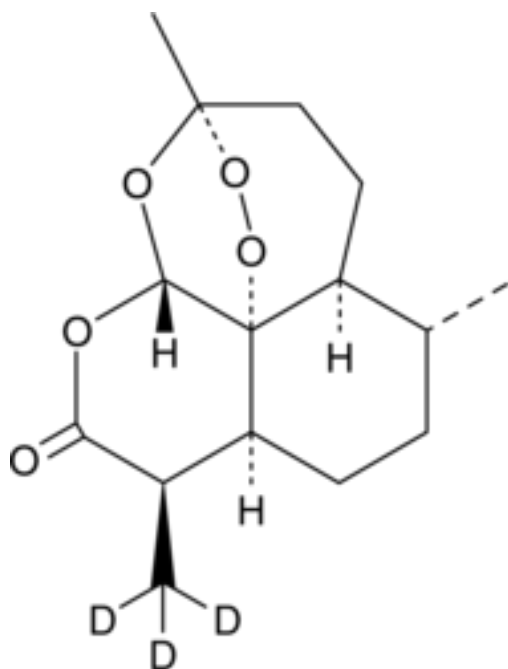
**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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### Structure



### Background

Artemisinin-d<sub>3</sub> is intended for use as an internal standard for the quantification of artemisinin .

Artemisinin is an endoperoxide antimalarial agent with anticancer activity.<sup>1,2</sup> It reduces the growth of various *P. falciparum* strains *in vitro* (IC<sub>50</sub>s = 3.98-20.36 nM) and reduces parasitemia in mice infected with *P. falciparum* with a curative dose (CD<sub>50</sub>) value of 140 mg/kg.<sup>1,3</sup> It also reduces *P. berghei* infection in mice (ED<sub>50</sub> = 5.6 mg/kg per day).<sup>4</sup> Artemisinin (100-400 µM) induces cell cycle arrest in the G<sub>0</sub>/G<sub>1</sub> phase and apoptosis and inhibits growth of SK-N-AS, BE(2)-C, SK-N-DZ, and SHEP1 neuroblastoma cells in a time- and concentration-dependent manner.<sup>2</sup> It also suppresses BE(2)-C cell colony formation in a soft agar assay and reduces tumor growth in a BE(2)-C mouse xenograft model. Formulations containing artemisinin have been used in combination therapies for

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the treatment of malaria.

1. Akoachere, M., Buchholz, K., Fischer, E., et al. In vitro assessment of methylene blue on chloroquine-sensitive and -resistant Plasmodium falciparum strains reveals synergistic action with artemisinin. *Antimicrob. Agents Chemother.* 49(11):4592-4597(2005)
2. Zhu, S., Liu, W., Ke, X., et al. Artemisinin reduces cell proliferation and induces apoptosis in neuroblastoma. *Oncol. Rep.* 32(3):1094-1100(2014)
3. Robert, A., Benoit-Vical, F., Claparols, C., et al. The antimalarial drug artemisinin alkylates heme in infected mice. *Proc. Natl. Acad. Sci. U.S.A.* 102(38):13676-13680(2005)
4. Chawira, A.N., Warhurst, D.C., Robinson, B.L., et al. The effect of combinations of qinghaosu (artemisinin) with standard antimalarial drugs in the suppressive treatment of malaria in mice. *Trans. R. Soc. Trop. Med. Hyg.* 81(4):554-558(1987)

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