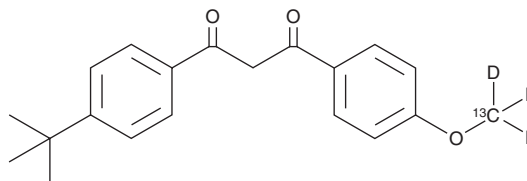


PRODUCT INFORMATION



Avobenzene-¹³C-d₃ Item No. 33367

CAS Registry No.: 2933758-47-3
Formal Name: 1-[4-(1,1-dimethylethyl)phenyl]-3-[4-(methoxy-¹³C-d₃)phenyl]-1,3-propanedione
Synonyms: BMDBM-¹³C-d₃, Butyl Methoxydibenzoylmethane-¹³C-d₃
MF: C₁₉[¹³C]H₁₉D₃O₃
FW: 314.4
Chemical Purity: ≥98% (Avobenzene)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤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

Avobenzene-¹³C-d₃ is intended for use as an internal standard for the quantification of avobenzene (Item No. 23836) 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).

Avobenzene-¹³C-d₃ is supplied as a solid. A stock solution may be made by dissolving the avobenzene-¹³C-d₃ in the solvent of choice, which should be purged with an inert gas. Avobenzene-¹³C-d₃ is soluble in acetonitrile, DMSO, and dimethyl formamide.

Description

Avobenzene is a full-spectrum ultraviolet A (UVA) blocker.¹ It inhibits UVA-induced increases in melanin levels and tyrosinase activity in B16/F10 melanoma cells (IC₃₀S = 21.94 and 24.25 μM, respectively).² Avobenzene (30 μM) also inhibits UVA-induced production of reactive oxygen species (ROS) and 8-hydroxy-2'-deoxyguanosine (8-OH-dG; Item No. 89320), as well as inhibits UVA-induced depletion of glutathione (GSH), in B16/F10 cells. It increases nuclear translocation of nuclear factor erythroid 2-related factor 2 (Nrf2) and upregulates the antioxidant response element (ARE) in UVA-irradiated B16/F10 cells when used at a concentration of 30 μM. Formulations containing avobenzene have been used as sun protectants in sunscreen products.

References

1. Beasley, D.G. and Meyer, T.A. Characterization of the UVA protection provided by avobenzene, zinc oxide, and titanium dioxide in broad-spectrum sunscreen products. *Am. J. Clin. Dermatol.* **11**(6), 413-421 (2010).
2. Chaiprasongsuk, A., Onkoksoon, T., Pluemsamran, T., *et al.* Photoprotection by dietary phenolics against melanogenesis induced by UVA through Nrf2-dependent antioxidant responses. *Redox Biol.* **8**, 79-90 (2016).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM