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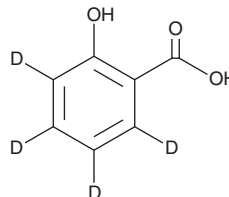
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PRODUCT INFORMATION



Salicylic Acid-d₄ Item No. 35418

CAS Registry No.: 78646-17-0
Formal Name: 6-hydroxy-benzoic-2,3,4,5-d₄ acid
Synonym: 2-Hydroxybenzoic Acid-d₄
MF: C₇H₂D₄O₃
FW: 142.1
Chemical Purity: ≥98% (Salicylic Acid)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A crystalline 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

Salicylic acid-d₄ is intended for use as an internal standard for the quantification of salicylic acid 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).

Salicylic acid-d₄ is supplied as a crystalline solid. A stock solution may be made by dissolving the salicylic acid-d₄ in the solvent of choice, which should be purged with an inert gas. Salicylic acid-d₄ is soluble in DMSO.

Description

Salicylic acid is an active metabolite of the COX inhibitor aspirin (Item No. 70260) and a plant hormone that has been found in *Cucumis sativus*.^{1,2} It protects *Cucumis sativus* leaves from infection by *S. fuliginea* or *E. chioracearum* when used at a concentration of 10 mM, as well as inhibits *A. thaliana* root growth at 0.3 mM.^{2,3} Salicylic acid (1 and 4 mM) reduces IFN-γ- and TNF-α-induced increases in NOS2 expression in primary rat cardiac fibroblasts.⁴ It decreases urine prostaglandin E₂ (PGE₂; Item No. 14010) levels in dogs when administered at a dose of 40 mg/kg.⁵

References

1. Klessig, D.F. Newly identified targets of aspirin and its primary metabolite, salicylic acid. *DNA Cell Biol.* **35(4)**, 163-166 (2016).
2. Feussner, I., Fritz, I.G., Hause, B., et al. Induction of a new lipoxygenase form in cucumber leaves by salicylic acid or 2,6-dichloroisonicotinic acid. *Bot. Acta* **110(2)**, 101-108 (1997).
3. Kim, T.-H., Kunz, H.-H., Bhattacharjee, S., et al. Natural variation in small molecule-induced TIR-NB-LRR signaling induces root growth arrest via EDS1- and PAD4-complexed R protein VICTR in *Arabidopsis*. *Plant Cell* **24(12)**, 5177-5192 (2012).
4. Farivar, R.S. and Brecher, P. Salicylate is a transcriptional inhibitor of the inducible nitric oxide synthase in cultured cardiac fibroblasts. *J. Biol. Chem.* **271(49)**, 31585-31592 (1996).
5. Zambraski, E.J., Atkinson, D.C., and Diamond, J. Effects of salicylate vs. aspirin on renal prostaglandins and function in normal and sodium-depleted dogs. *J. Pharmacol. Exp. Ther.* **247(1)**, 96-103 (1988).

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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