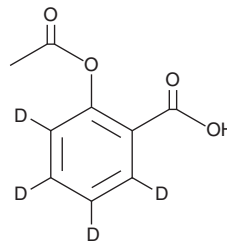


PRODUCT INFORMATION



Aspirin-d₄ Item No. 18243

CAS Registry No.: 97781-16-3
Formal Name: 6-(acetyloxy)-benzoic-2,3,4,5-d₄ acid
Synonym: Acetylsalicylic Acid-d₄
MF: C₉H₄D₄O₄
FW: 184.2
Chemical Purity: ≥95% (Aspirin)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
UV/Vis.: λ_{max}: 225 nm
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

Aspirin-d₄ is intended for use as an internal standard for the quantification of aspirin (Item No. 70260) 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).

Aspirin-d₄ is supplied as a crystalline solid. A stock solution may be made by dissolving the aspirin-d₄ in the solvent of choice, which should be purged with an inert gas. Aspirin-d₄ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of aspirin-d₄ in these solvents is approximately 80, 41, and 30 mg/ml, respectively.

Description

Aspirin is a non-steroidal anti-inflammatory drug (NSAID) and a covalent inhibitor of COX-1 and COX-2 (IC₅₀s = 4.45 and 13.88 μM, respectively, for the human enzymes).¹ It is also an inhibitor of hematopoietic prostaglandin D synthase (H-PGDS; IC₅₀ = 750 μM for the ovine enzyme).² Aspirin (6 μg/ml) inhibits epinephrine- and ADP-induced platelet aggregation.³ *In vivo*, aspirin (30 mg/kg) reduces infarct volume and microglial infiltration in a rat model of ischemia-reperfusion injury induced by middle cerebral artery occlusion (MCAO).⁴ It decreases macrophage infiltration into, increases the number of smooth muscle cells and levels of collagen in, and reduces the area of, atherosclerotic lesions in LDL receptor-deficient mice fed a high-fat diet when administered in the drinking water at 30 mg/L.⁵ Formulations containing aspirin have been used in the treatment of pain, fever, and in stroke prevention.

References

1. Cryer, B. and Feldman, M. *Am. J. Med.* **104**(5), 413-421 (1998).
2. Johnson, J.L., Wimsatt, J., Buckel, S.D., *et al. Arch. Biochem. Biophys.* **324**(1), 26-34 (1995).
3. Papp, J., Sandor, B., Vamos, Z., *et al. Clin. Hemorheol. Microcirc.* **56**(1), 1-12 (2014).
4. Whitehead, S.N., Bayona, N.A., Cheng, G., *et al. Stroke* **38**(2), 381-387 (2007).
5. Cyrus, T., Sung, S., Zhao, L., *et al. Circulation* **106**, 1282-1287 (2002).

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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