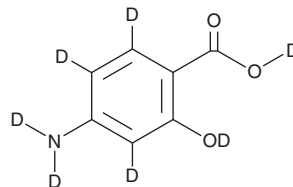


PRODUCT INFORMATION

4-Aminosalicylic Acid-d₇

Item No. 43800

Formal Name: 4-(amino-d₂)-2-(hydroxy-d)₅benzoic-d₃ acid-d₂
Synonyms: *p*-Aminosalicylic Acid-d₇, 4-ASA-d₇, PAS-d₇, Sanipiol-4-d₇
MF: C₇D₇NO₃
FW: 160.2
Chemical Purity: ≥95% (4-Aminosalicylic Acid)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₇); ≤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

4-Aminosalicylic acid-d₇ is intended for use as an internal standard for the quantification of 4-aminosalicylic acid (Item No. 33449) 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).

4-Aminosalicylic acid-d₇ is supplied as a solid. A stock solution may be made by dissolving the 4-aminosalicylic acid-d₇ in the solvent of choice, which should be purged with an inert gas. 4-Aminosalicylic acid-d₇ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 4-aminosalicylic acid-d₇ in these solvents is approximately 30 mg/ml.

Description

4-Aminosalicylic acid is an antimetabolite of *p*-aminobenzoic acid (PABA; Item No. 18659) that has antibacterial activity.^{1,2} It is active against streptomycin-sensitive and -resistant strains of *M. tuberculosis* (MICs = 0.78 and 0.39 µg/ml, respectively), an effect that can be reversed by PABA.¹ 4-Aminosalicylic acid is an alternative substrate for mycobacterial dihydropteroate synthase (FolP1) and misincorporation into the folate pathway leads to accumulation of several folate-dependent metabolites including serine, homocysteine, dUMP, and AICAR, markers of folate pathway inhibition, in a concentration-dependent manner.² It reverses manganese-induced increases in rat hippocampal levels of NOD-like receptor protein 3 (NLRP3), cleaved caspase-1, and phosphorylated p65, markers of NLRP3 inflammasome-dependent pyroptosis, when administered at a dose of 300 mg/kg.³ 4-Aminosalicylic acid is also a building block that has been used in the synthesis of luminescent lanthanide complexes.⁴ Formulations containing 4-aminosalicylic acid have been used in the treatment of tuberculosis.

References

1. Youmans, G.P., Raleigh, G.W., and Youmans, A.S. The tuberculostatic action of para-aminosalicylic acid. *J. Bacteriol.* **54**(4), 409-416 (1947).
2. Chakraborty, S., Gruber, T., Barry, C.E., III, et al. Para-aminosalicylic acid acts as an alternative substrate of folate metabolism in *Mycobacterium tuberculosis*. *Science* **339**(6115), 88-91 (2013).
3. Peng, D., Li, J., Deng, Y., et al. Sodium para-aminosalicylic acid inhibits manganese-induced NLRP3 inflammasome-dependent pyroptosis by inhibiting NF-κB pathway activation and oxidative stress. *J. Neuroinflammation* **17**(1), 343 (2020).
4. Terai, T., Ito, H., Kikuchi, K., et al. Salicylic-acid derivatives as antennae for ratiometric luminescent probes based on lanthanide complexes. *Chemistry* **18**(24), 7377-7381 (2012).

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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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