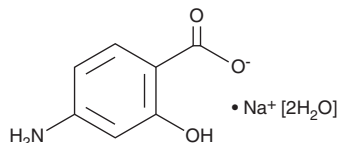


PRODUCT INFORMATION

4-Aminosalicylic Acid (sodium salt hydrate)

Item No. 44827

CAS Registry No.: 6018-19-5
Formal Name: 4-amino-2-hydroxy-benzoic acid, monosodium salt, dihydrate
Synonyms: *p*-Aminosalicylic acid, 4-ASA, PAS
MF: C₇H₆NO₃ • Na [2H₂O]
FW: 211.1
Purity: ≥98%
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 (sodium salt hydrate) is supplied as a solid. A stock solution may be made by dissolving the 4-aminosalicylic acid (sodium salt hydrate) in the solvent of choice, which should be purged with an inert gas. 4-Aminosalicylic acid (sodium salt hydrate) is soluble (≥10 mg/ml) in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 4-aminosalicylic acid (sodium salt hydrate) can be prepared by directly dissolving the solid in aqueous buffers. 4-Aminosalicylic acid (sodium salt hydrate) is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

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. *J. Bacteriol.* **54**(4), 409-416 (1947).
2. Chakraborty, S., Gruber, T., Barry, C.E., III, et al. *Science* **339**(6115), 88-91 (2013).
3. Peng, D., Li, J., Deng, Y., et al. *J. Neuroinflammation* **17**(1), 343 (2020).
4. Terai, T., Ito, H., Kikuchi, K., et al. *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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