

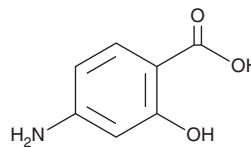
PRODUCT INFORMATION



4-Aminosalicylic Acid

Item No. 33449

CAS Registry No.: 65-49-6
Formal Name: 4-amino-2-hydroxy-benzoic acid
Synonyms: *p*-Aminosalicylic Acid, 4-ASA, NSC 2083, NSC 211698, PAS, SanipiroI-4
MF: C₇H₇NO₃
FW: 153.1
Purity: ≥95%
UV/Vis.: λ_{max}: 240, 284, 306 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

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