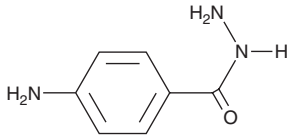
PRODUCT INFORMATION

4-Aminobenzoic Acid hydrazide

Item No. 14845

CAS Registry No.: 5351-17-7
Formal Name: 4-amino-benzoic acid, hydrazide
Synonyms: 4-ABAH, Myeloperoxidase Inhibitor 1, NSC 640
MF: $C_7H_9N_3O$
FW: 151.2
Purity: ≥98%
UV/Vis.: λ_{max}: 282 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-Aminobenzoic acid hydrazide (4-ABAH) is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-ABAH in the solvent of choice. 4-ABAH is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of 4-ABAH in these solvents is approximately 14 and 10 mg/ml, respectively.

4-ABAH is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-ABAH should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4-ABAH has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

4-Aminobenzoic acid hydrazide (4-ABAH) is an irreversible inhibitor of myeloperoxidase (MPO; IC_{50} = 0.3 µM).[1] It reduces the production of hypochlorous acid (HOCl) induced by opsonized zymosan or phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) in isolated human neutrophils with IC_{50} values of 16 and 2.2 µM, respectively. 4-ABAH inhibits PMA-induced formation of neutrophil extracellular traps (NETs) in the same cells.[2] It reduces infarct volume and the severity of neurological deficits, as well as increases survival, in a mouse model of cerebral ischemia induced by transient middle cerebral artery occlusion (MCAO) when administered at a dose of 40 mg/kg twice per day.[3]

References

1. Kettle, A.J., Gedye, C.A., Hampton, M.B., *et al.* Inhibition of myeloperoxidase by benzoic acid hydrazides. *Biochem. J.* **308**, 559-563 (1995).
2. Nakabo, S., Ohmura, K., Akizuki, S., *et al.* Activated neutrophil carbamylates albumin via the release of myeloperoxidase and reactive oxygen species regardless of NETosis. *Mod. Rheumatol.* **30(2)**, 345-349 (2019).
3. Forghani, R., Kim, H.J., Wojtkiewicz, G.R., *et al.* Myeloperoxidase propagates damage and is a potential therapeutic target for subacute stroke. *J. Cereb. Blood Flow Metab.* **35(3)**, 485-493 (2015).

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