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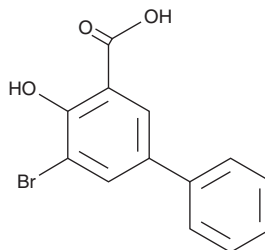
PRODUCT INFORMATION



3-bromo-5-phenyl Salicylic Acid

Item No. 13574

CAS Registry No.: 4906-68-7
Formal Name: 5-bromo-4-hydroxy-[1,1'-biphenyl]-3-carboxylic acid
Synonym: NSC 109116
MF: C₁₃H₉BrO₃
FW: 293.1
Purity: ≥95%
UV/Vis.: λ_{max}: 233, 326 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

3-bromo-5-phenyl Salicylic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-bromo-5-phenyl salicylic acid in the solvent of choice, which should be purged with an inert gas. 3-bromo-5-phenyl Salicylic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 3-bromo-5-phenyl salicylic acid in these solvents is approximately 0.1, 12.5, and 15 mg/ml, respectively.

3-bromo-5-phenyl Salicylic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3-bromo-5-phenyl salicylic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 3-bromo-5-phenyl Salicylic acid has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The aldo-keto reductase (AKR) enzymes constitute a family of related NADPH-dependent oxidoreductases. The 1C subfamily (AKR1C) includes four human hydroxysteroid dehydrogenases, with AKR1C1 being a 20α-HSD and the other three being 3α-HSDs. AKR1C1 metabolizes progesterone to an inactive progestin, 20α-hydroxy progesterone.¹ In addition, AKR1C1 actions have been implicated in cancer and in the processing of neuroactive steroids involved in brain function.²⁻⁵ 3-bromo-5-phenyl Salicylic acid selectively inhibits AKR1C1 (K_i = 4 nM) over AKR1C2 (K_i = 87 nM), AKR1C3 (K_i = 4.2 μM), and AKR1C4 (K_i = 18.2 μM).⁶ Moreover, it potently inhibits the metabolism of progesterone by bovine aortic endothelial cells overexpressing AKR1C1 (IC₅₀ = 460 nM).⁶

References

1. Zhang, Y., Dufort, I., Rheault, P., *et al.* *J. Mol. Endocrinol.* **25**(2), 221-228 (2000).
2. Lewis, M.J., Wiebe, J.P., and Heathcote, J.G. *BMC Cancer* **4**, 27 (2004).
3. Wang, H.W., Lin, C.P., Chiu, J.H., *et al.* *Int. J. Cancer* **120**(9), 2019-2027 (2007).
4. Belelli, D., Herd, M.B., Mitchell, E.A., *et al.* *Neuroscience* **138**(3), 821-829 (2006).
5. Usami, N., Yamamoto, T., Shintani, S., *et al.* *Biol. Pharm. Bull.* **25**(4), 441-445 (2002).
6. El-Kabbani, O., Scammells, P.J., Gosling, J., *et al.* *J. Med. Chem.* **52**(10), 3259-3264 (2009).

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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