

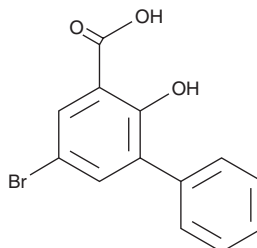
# PRODUCT INFORMATION



## 5-bromo-3-phenyl Salicylic Acid

Item No. 13379

**CAS Registry No.:** 99514-99-5  
**Formal Name:** 5-bromo-2-hydroxy-[1,1'-biphenyl]-3-carboxylic acid  
**MF:** C<sub>13</sub>H<sub>9</sub>BrO<sub>3</sub>  
**FW:** 293.1  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 220, 301 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

5-bromo-3-phenyl Salicylic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-bromo-3-phenyl salicylic acid in the solvent of choice, which should be purged with an inert gas. 5-bromo-3-phenyl Salicylic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 5-bromo-3-phenyl salicylic acid in ethanol is approximately 3 mg/ml and approximately 20 mg/ml in DMSO and DMF.

5-bromo-3-phenyl Salicylic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 5-bromo-3-phenyl salicylic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 5-bromo-3-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 (HSDs), with AKR1C1 being a 20 $\alpha$ -HSD and the other three being 3 $\alpha$ -HSDs. AKR1C1 metabolizes progesterone to an inactive progestin, 20 $\alpha$ -hydroxy progesterone.<sup>1</sup> In addition, AKR1C1 actions have been implicated in cancer and in the processing of neuroactive steroids involved in brain function.<sup>2-5</sup> 5-bromo-3-phenyl Salicylic acid selectively inhibits AKR1C1 (K<sub>i</sub> = 140 nM) over AKR1C2 (K<sub>i</sub> = 1.97  $\mu$ M) and AKR1C3 (K<sub>i</sub> = 21  $\mu$ M).<sup>6</sup> It does not inhibit AKR1C4 at 100  $\mu$ M.<sup>6</sup>

### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 03/20/2024

#### 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