

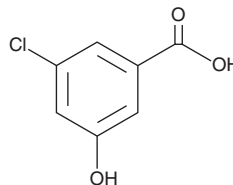
PRODUCT INFORMATION



3-chloro-5-hydroxy BA

Item No. 16795

CAS Registry No.: 53984-36-4
Formal Name: 3-chloro-5-hydroxy-benzoic acid
Synonyms: 3-chloro-5-hydroxy Benzoic Acid, CHBA, GPR81 Agonist
MF: C₇H₅ClO₃
FW: 172.6
Purity: ≥98%
UV/Vis.: λ_{max}: 210, 305 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-chloro-5-hydroxy BA is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-chloro-5-hydroxy BA in the solvent of choice, which should be purged with an inert gas. 3-chloro-5-hydroxy BA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 3-chloro-5-hydroxy BA in ethanol is approximately 30 mg/ml and approximately 50 mg/ml in DMSO and DMF.

3-chloro-5-hydroxy BA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3-chloro-5-hydroxy BA should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 3-chloro-5-hydroxy BA 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

GPR81, also known as hydroxycarboxylic acid receptor 1 (HCAR1), is a recently de-orphanized receptor that is activated by lactic acid (EC₅₀ ~ 1.5 mM) but not by other hydroxycarboxylic acids.^{1,2} 3-chloro-5-hydroxy BA is an agonist of GPR81 (EC₅₀ = 16 μM) that is inactive against the related GPR109a (HCAR2) receptor.³ It is similarly effective at GPR81 receptors from a variety of mammalian species and is bioavailable, stimulating lipolysis (increased serum free fatty acids) in mice fed high fat chow for 10 weeks.³ 3-chloro-5-hydroxy BA, like lactate, blocks basal ghrelin secretion by primary gastric mucosal cells.⁴

References

1. Ahmed, K., Tunaru, S., and Offermanns, S. GPR109A, GPR109B and GPR81, a family of hydroxy-carboxylic acid receptors. *Trends Pharmacol. Sci.* **30(11)**, 557-562 (2009).
2. Davenport, A.P., Alexander, S.P.H., Sharman, J.L., et al. International Union of Basic and Clinical Pharmacology. LXXXVIII. G protein-coupled receptor list: Recommendations for new pairings with cognate ligands. *Pharmacol. Rev.* **65(3)**, 967-986 (2013).
3. Dvorak, C.A., Liu, C., Shelton, J., et al. Identification of hydroxybenzoic acids as selective lactate receptor (GPR81) agonists with antilipolytic effects. *ACS Med. Chem. Lett.* **3(8)**, 637-639 (2012).
4. Engelstoft, M.S., Park, W.m., Sakata, I., et al. Seven transmembrane G protein-coupled receptor repertoire of gastric ghrelin cells. *Mol. Metab.* **2(4)**, 376-392 (2013).

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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