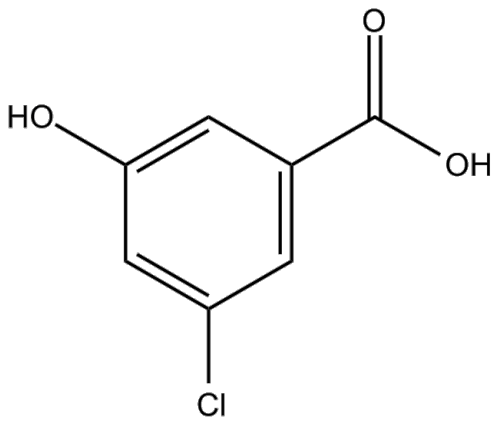
Product Data Sheet

Product Name: 3-chloro-5-hydroxy BA
Cat. No.: GC16689

Chemical Properties

Cas. No.	53984-36-4		
Chemical Name	3-chloro-5-hydroxy-benzoic acid		
SMILES	ClC1=CC(O)=CC(C(O)=O)=C1		
Formula	$C_7H_5ClO_3$	M.Wt	172.6
Solubility	≥ 6.65mg/mL in DMSO	Storage	Store at RT
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

3-chloro-5-hydroxy BA is a GPR81 agonist.

GPR81 (HCA1) is a member of G-protein-coupled receptors (GPCRs). GPR81 is predominantly expressed on adipocytes and is activated by the endogenous ligands 2-hydroxypropanoate (lactate). Stimulation of GPR81 in adipose tissue lead to a decrease in the lipolysis of triglycerides by hormone-sensitive lipase, which resulted in reduced transport of fatty acids to the liver and a

decrease in hepatic triglycerides [1].

In vitro: In the hGPR81 assay, 3-chloro-5-hydroxybenzoic acid showed the potency against GPR81 with an EC50 of 16 μM. The EC50 of 3-chloro-5-hydroxybenzoic acid against monkey GPR81, dog GPR81, rat GPR81, mouse GPR81, and hamster GPR81 was 17 μM, 67 μM, 7 μM, 22 μM and 27 μM, respectively [1]. 3-chloro-5-hydroxy BA blocked basal ghrelin secretion by primary gastric mucosal cells [2].

In vivo: In mice, oral administration of 3-chloro-5-hydroxybenzoic acid at 30 mg/kg provided a Cmax of 67 μM at approximately 3-fold over the in vitro EC50 with an AUCinf of 54 h μM and a short t1/2 of 1.5 h, and the 100 mg/kg p.o dose attained a Cmax of 342 μM at greater than 15-fold over the observed in vitro EC50 [1].

References:
[1]. Dvorak C A, Liu C, Shelton J, et al. Identification of hydroxybenzoic acids as selective lactate receptor (GPR81) agonists with antilipolytic effects[J]. ACS medicinal chemistry letters, 2012, 3(8): 637-639.
[2]. Engelstoft M S, Park W, Sakata I, et al. Seven transmembrane G protein-coupled receptor repertoire of gastric ghrelin cells[J]. Molecular metabolism, 2013, 2(4): 376-392.

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA