

# PRODUCT INFORMATION



## CL 316,243 (sodium salt)

Item No. 17499

**CAS Registry No.:** 138908-40-4  
**Formal Name:** 5-[[2R)-2-[[[(2R)-2-(3-chlorophenyl)-2-hydroxyethyl]amino]propyl]-1,3-benzodioxole-2,2-dicarboxylic acid, disodium salt

**MF:** C<sub>20</sub>H<sub>18</sub>ClNO<sub>7</sub> • 2Na

**FW:** 465.8

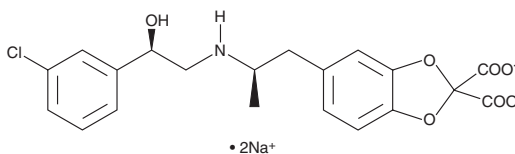
**Purity:** ≥95%

**UV/Vis.:** λ<sub>max</sub>: 285 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

CL 316,243 (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the CL 316,243 (sodium salt) in the solvent of choice, which should be purged with an inert gas. CL 316,243 (sodium salt) is soluble in the organic solvent DMSO. The solubility of CL 316,243 (sodium salt) in DMSO is approximately 0.5 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of CL 316,243 (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of CL 316,243 (sodium salt) in PBS, pH 7.2, is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

CL 316,243 is a β<sub>3</sub>-adrenoceptor agonist (EC<sub>50</sub> = 3 nM) that is >10,000-fold selective over β<sub>1</sub> and β<sub>2</sub>.<sup>1,2</sup> It causes a rapid decrease in blood glucose level in mice and has been used to study the induction of brown adipocytes and to increase thermogenesis in a mouse model of dietary obesity.<sup>3,4</sup>

### References

1. Bloom, J.D., Dutia, M.D., Johnson, B.D., *et al.* Disodium (R,R)-5-[2-[[2-(3-chlorophenyl)-2-hydroxyethyl]-amino] propyl]-1,3-benzodioxole-2,2-dicarboxylate (CL 316,243). A potent β-adrenergic agonist virtually specific for β<sub>3</sub> receptors. A promising antidiabetic and antiobesity agent. *J. Med. Chem.* **35(16)**, 3081-3084 (1992).
2. Baker, J.G. The selectivity of β-adrenoceptor antagonists at the human β<sub>1</sub>, β<sub>2</sub> and β<sub>3</sub> adrenoceptors. *Br. J. Pharmacol.* **144(3)**, 317-322 (2005).
3. Guerra, C., Koza, R.A., Yamashita, H., *et al.* Emergence of brown adipocytes in white fat in mice is under genetic control. Effects on body weight and adiposity. *J. Clin. Invest.* **102(2)**, 412-420 (1998).
4. MacPherson, R.E.K., Castellani, L., Bueadoin, M.-S., *et al.* Evidence for fatty acids mediating CL 316,243-induced reductions in blood glucose in mice. *Am. J. Physiol. Endocrinol. Metab.* **307(7)**, E563-E570 (2014).

#### 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, 09/28/2022

#### 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