

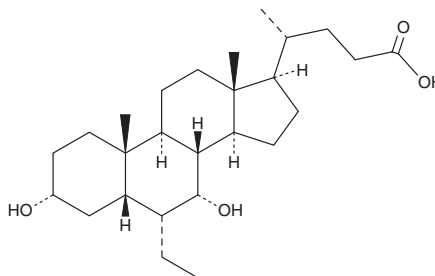
PRODUCT INFORMATION



6-ECDCA

Item No. 11031

CAS Registry No.: 459789-99-2
Formal Name: (3 α ,5 β ,6 α ,7 α)-6-ethyl-3,7-dihydroxy-cholan-24-oic acid
Synonyms: INT 747, Obeticholic Acid
MF: C₂₆H₄₄O₄
FW: 420.6
Purity: \geq 95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

6-ECDCA is supplied as a crystalline solid. A stock solution may be made by dissolving the 6-ECDCA in the solvent of choice, which should be purged with an inert gas. 6-ECDCA is soluble in ethanol, DMSO, and methanol.

Description

Farnesoid X receptor (FXR) is a nuclear receptor that is activated by bile acid, with chenodeoxycholic acid (CDCA) being a representative natural ligand.¹ 6-ECDCA is a synthetic bile acid that acts as a potent and selective agonist of FXR (EC₅₀ = 99 nM).² Through FXR, it alters gene expression that results in protection against cholestasis as well as liver fibrosis.²⁻⁴ 6-ECDCA also, through FXR, promotes the differentiation of adipocytes and enhances insulin signaling in mature adipocytes.⁵ In ApoE^{-/-} mice, 6-ECDCA ameliorates vascular calcification secondary to chronic kidney disease without affecting the development of atherosclerosis.⁶

References

1. Rizzo, G., Renga, B., Antonelli, E., *et al.* The methyl transferase PRMT1 functions as co-activator of farnesoid X receptor (FXR)/9-*cis* retinoid X receptor and regulates transcription of FXR responsive genes. *Mol. Pharmacol.* **68(2)**, 551-558 (2005).
2. Pellicciari, R., Fiorucci, S., Camaioni, E., *et al.* 6 α -ethyl-chenodeoxycholic acid (6-ECDCA), a potent and selective FXR agonist endowed with anticholestatic activity. *J. Med. Chem.* **45(17)**, 3569-3572 (2002).
3. Fiorucci, S., Clerici, C., Antonelli, E., *et al.* Protective effects of 6-ethyl chenodeoxycholic acid, a farnesoid X receptor ligand, in estrogen-induced cholestasis. *J. Pharmacol. Exp. Ther.* **313(2)**, 604-612 (2005).
4. Fiorucci, S., Rizzo, G., Antonelli, E., *et al.* A farnesoid X receptor-small heterodimer partner regulatory cascade modulates tissue metalloproteinase inhibitor-1 and matrix metalloprotease expression in hepatic stellate cells and promotes resolution of liver fibrosis. *J. Pharmacol. Exp. Ther.* **314(2)**, 584-595 (2005).
5. Rizzo, G., Disante, M., Mencarelli, A., *et al.* The Farnesoid X receptor promotes adipocyte differentiation and regulates adipose cell function in vivo. *Mol. Pharmacol.* **70(4)**, 1164-1173 (2006).
6. Miyazaki-Anzai, S., Levi, M., Kratzer, A., *et al.* Farnesoid X receptor activation prevents the development of vascular calcification in ApoE^{-/-} mice with chronic kidney disease. *Circ. Res.* **106(12)**, 1807-1817 (2010).

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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