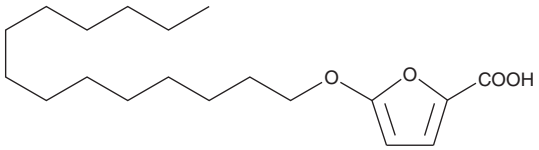
PRODUCT INFORMATION

TOFA

Item No. 10005263

CAS Registry No.: 54857-86-2
Formal Name: 5-(tetradecyloxy)-2-furancarboxylic acid
Synonyms: RMI 14514; 5-(tetradecyloxy)-2-Furoic Acid
MF: $C_{19}H_{32}O_4$
FW: 324.5
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

TOFA is supplied as a crystalline solid. A stock solution may be made by dissolving the TOFA in an organic solvent purged with an inert gas. TOFA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of TOFA in these solvents is approximately 1, 2, and 10 mg/ml, respectively.

TOFA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TOFA should first be dissolved in DMF and then diluted with the aqueous buffer of choice. TOFA has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Inhibition of fatty acid synthase (FASN) by the irreversible inhibitor cerulenin leads to cytotoxicity and apoptosis in human cancer cell lines.[1] TOFA is an inhibitor of fatty acid synthesis acting one step earlier in the metabolic pathway, blocking the synthesis of malonyl-CoA by acetyl-CoA carboxylase (ACC).[2] Both cerulenin (at about 10 µg/ml) and TOFA (at about 1 µg/ml) are effective at blocking the incorporation of radiolabeled acetate into palmitate. However, TOFA reduces malonyl-CoA levels rather than elevating them, and TOFA is relatively non-toxic to various cancer cell lines. TOFA also attenuates the inhibition of feeding observed when FASN inhibitors such as cerulenin and C75 are administered to obese *ob/ob* mice.

References

1. Moche, M., Schneider, G., Edwards, P., *et al.* Structure of the complex between the antibiotic cerulenin and its target, β-ketoacyl-acyl carrier protein synthase. *J. Biol. Chem.* **274(10)**, 6031-6034 (1999).
2. Loftus, T.M., Jaworsky, D.E., Frehywot, G.L., *et al.* Reduced food intake and body weight in mice treated with fatty acid synthase inhibitors. *Science* **288**, 2379-2381 (2000).

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