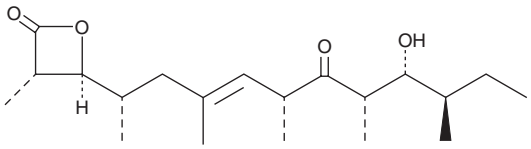
PRODUCT INFORMATION

Ebelactone A

Item No. 19163

CAS Registry No.: 76808-16-7
Formal Name: (3S,4S)-4-[(1S,3E,5R,7S,8R,9R)-8-hydroxy-1,3,5,7,9-pentamethyl-6-oxo-3-undecen-1-yl]-3-methyl-2-oxetanone
Synonyms: (−)-Ebelactone A, NSC 335650
MF: $C_{20}H_{34}O_4$
FW: 338.5
Purity: ≥98%
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

Ebelactone A is supplied as a crystalline solid. A stock solution may be made by dissolving the ebelactone A in the solvent of choice. Ebelactone A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of ebelactone A in ethanol is approximately 20 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Ebelactone A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ebelactone A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Ebelactone A 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

Ebelactone A is a β-lactone enzyme inhibitor that was first isolated from a cultured strain of soil actinomycetes.[1] It can inhibit esterases, lipases, and N-formylmethionine aminopeptidases (IC_{50}s = 0.056, 0.003, and 0.08 µg/ml, respectively) found on cell surfaces, which has been shown to stimulate host defense in immune cells.[2] Ebelactone A is also reported to inhibit cutinases produced by fungal pathogens, thus demonstrating a plant-protective function.[3]

References

1. Uotani, K., Naganawa, H., Kondo, S., *et al.* Structural studies on ebelactone A and B, esterase inhibitors produced by actinomycetes. *J. Antibiot. (Tokyo)* **35(11)**, 1495-1499 (1982).
2. Umezawa, H., Aoyagi, T., Uotani, K., *et al.* Ebelactone, an inhibitor of esterase, produced by actinomycetes. *J. Antibiot. (Tokyo)* **33(12)**, 1594-1596 (1980).
3. Köller, W., Trail, F., and Parker, D.M. Ebelactones inhibit cutinases produced by fungal plant pathogens. *J. Antibiot. (Tokyo)* **43(6)**, 734-735 (1990).

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