

Product Data Sheet

Product Name: KC01
Cat. No.: GC12789

Chemical Properties

Cas. No. 1646795-59-6

Chemical Name (Z)-6-(2-oxo-4-tridecyloxetan-3-ylidene)hexanamide

SMILES CCCCCCCCCCCCC1OC(/C1=C\CCCCC(N)=O)=O

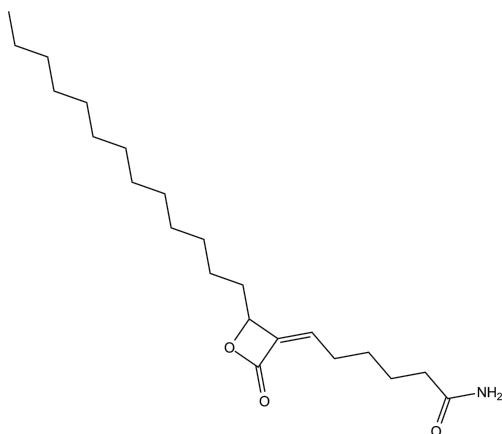
Formula $C_{22}H_{39}NO_3$ M.Wt 365.55

Solubility DMF: 5 mg/ml, DMSO: 5 mg/ml, Ethanol: 16 mg/ml, Ethanol: PBS (pH 7.2) (1:5): 0.5 mg/ml
Storage Store at -20°C

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

KC01 is a potent and selective inhibitor of ABHD16A. By measuring competitive gel-based ABPP, the IC₅₀ values of inhibition of ABHD16A by KC01 and KC02 were ~0.2–0.5 μM and >10 μM, respectively. Testing by a PS substrate assay, IC₅₀ values of inhibition of human ABHD16A by KC01

Caution: Product has not been fully validated for medical applications. For research use only.

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was 90 ± 20 nM.

Lysophosphatidylserines (lyso-PSs) are a class of signaling lipids that regulate immunological and neurological processes. ABHD16A is a phosphatidylserine (PS) lipase that generates lyso-PS in mammalian systems. KC01 can deplete lysoPSs from cells, including lymphoblasts derived from subjects with PHARC. It was shown that KC01, but not KC02, inhibited the PS lipase activity of brain membrane lysates from 2-month-old Abhd12^{+/+} and Abhd12^{-/-} mice. K562 cell lines were treated with varying concentrations of KC01 for 4 h and analyzed the cell membrane fractions by gel-based ABPP, which confirmed in situ inhibition of ABHD16A with an IC₅₀ value of ~ 0.3 μ M.

In mouse macrophages, disruption of ABHD12 and ABHD16A increases and decreases both lyso-PSs and lipopolysaccharide-induced cytokine production. Knockout mice of Abhd16a^{-/-} have decreased brain lyso-PSs, which runs counter to the elevation in lyso-PS.

References:

[1]. Kamat SS, Camara K2, Parsons WH et al. Immunomodulatory lysophosphatidylserines are regulated by ABHD16A and ABHD12 interplay. *Nat Chem Biol.* 2015 Feb;11(2):164-71.

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