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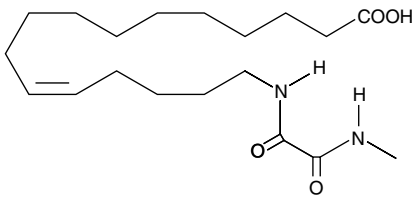
Product Information

CAY10665

Item No. 11044

CAS Registry No.: 1235543-17-5
Formal Name: 16-[[2-(methylamino)-2-oxoacetyl] amino]-11Z-hexadecenoic acid
MF: $C_{19}H_{34}N_2O_4$
FW: 354.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that CAY10665 be stored as supplied at -20°C. It should be stable for at least one year.

CAY10665 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10665 in the solvent of choice. CAY10665 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of CAY10665 in these solvents is approximately 30 mg/ml.

CAY10665 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Isolated neonatal rat cardiomyocytes, which spontaneously beat in culture, are used to evaluate the antiarrhythmic effects of polyunsaturated fatty acids (PUFA).[1] In this model, the ω-3 PUFA eicosapentaenoic acid (EPA, 3-10 µM) reduces the contraction rate of cells, indicating a positive antiarrhythmic effect.[1] Cytochrome P450 metabolites of EPA are more potent, with 17,18-epoxyeicosatetraenoic acid (17,18-EET) reducing contractions at 30 nM.[2] CAY10665 is a bioisostere of 17,18-EET which is approximately 50% more effective at reducing arrhythmic contraction frequency, without affecting amplitude, when tested at 30 nM.[3] This disubstituted oxamide represents a stable analog of 17,18-EET which may be used to study the mechanism of regulation of cardiomyocyte contractility by EPA metabolites.

References

1. Kang, J.X. and Leaf, A. Effects of long-chain polyunsaturated fatty acids on the contraction of neonatal rat cardiac myocytes. *Proc. Natl. Acad. Sci. USA* **91**, 9886-9890 (1994).
2. Arnold, C., Markovic, M., Blossey, K., *et al.* Arachidonic acid-metabolizing cytochrome P450 enzymes are targets of omega-3 fatty acids. *J. Biol. Chem.* **285**, 32720-32733 (2010).
3. Falck, J.R., Wallukat, G., Puli, N., *et al.* 17(R), 18(S)-epoxyeicosatetraenoic acid, a potent eicosapentaenoic acid (EPA) derived regulator of cardiomyocyte contraction: Structure-activity relationships and stable analogues. *J. Med. Chem.* **54(12)**, 4109-4118 (2011).

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