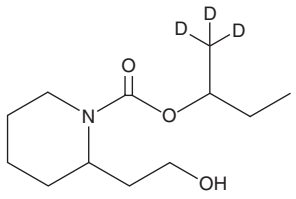
PRODUCT INFORMATION

Picaridin-d_3

Item No. 34424

CAS Registry No.: 2928067-33-6
Formal Name: 2-(2-hydroxyethyl)-1-piperidinecarboxylic acid, 1-methyl-d_3-propyl ester
Synonym: Icaridin-d_3
MF: $C_{12}H_{20}D_3NO_3$
FW: 232.3
Chemical Purity: ≥95% (Picaridin)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as: An oil
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Picaridin-d_3 is intended for use as an internal standard for the quantification of picaridin (Item No. 16458) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Picaridin-d_3 is supplied as an oil. A stock solution may be made by dissolving the picaridin-d_3 in the solvent of choice, which should be purged with an inert gas. Picaridin-d_3 is slightly soluble in chloroform and methanol.

Description

Picaridin is an insect repellant.[1-3] It inhibits *A. aegypti* odorant receptor 2 (AaOR2) or AaOR8 in the presence of their odorant activators, indole and octenol, respectively, expressed in *Xenopus* oocytes (IC_{50}s = 1,452 and 1,911 µM, respectively).[1] Picaridin reduces the number of entries into a food chamber by female *D. melanogaster* in an olfactory-based choice assay.[2] It acts synergistically with the non-pyrethroid insecticide pyrimiphos methyl to increase mortality of *A. gambiae* and reduce blood feeding when used at a concentration of 10 g/m^2 on nets surrounding guinea pig cages.[3] Formulations containing picaridin have been used as insect repellants against flies, mosquitoes, chiggers, ticks, and fleas.

References

1. Bohbot, J.D. and Dickens, J.C. Insect repellents: Modulators of mosquito odorant receptor activity. *PLoS One* **5(8)**, 1-11 (2010).
2. Syed, Z., Pelletier, J., Flounders, E., *et al.* Generic insect repellent detector from the fruit fly *Drosophila melanogaster*. *PLoS One* **6(3)**, e17705 (2011).
3. Pennetier, C., Corbel, V., Boko, P., *et al.* Synergy between repellents and non-pyrethroid insecticides strongly extends the efficacy of treated nets against *Anopheles gambiae*. *Malar. J.* **6**, 38 (2007).

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