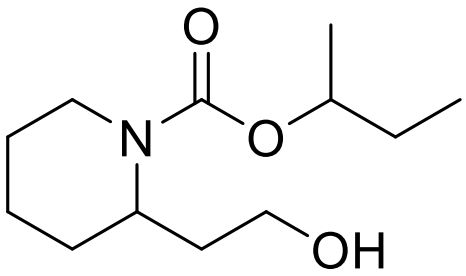
Product data sheet

MedKoo Cat#: 525262 Name: Icaridin CAS: 119515-38-7 Chemical Formula: $C_{12}H_{23}NO_3$ Exact Mass: 229.1678 Molecular Weight: 229.32	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Icaridin, also known as picaridin and KBR 3023, is an insect repellent. It has broad efficacy against various insects and is almost colorless and odorless.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	130.82
DMSO	137.5	599.60
Ethanol	30.0	130.82
PBS (pH 7.2)	2.0	8.72

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.36 mL	21.80 mL	43.61 mL
5 mM	0.87 mL	4.36 mL	8.72 mL
10 mM	0.44 mL	2.18 mL	4.36 mL
50 mM	0.09 mL	0.44 mL	0.87 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Shiau AL, Liao CS, Tu CW, Wu SN, Cho HY, Yu MC. Characterization in Effective Stimulation on the Magnitude, Gating, Frequency Dependence, and Hysteresis of INa Exerted by Picaridin (or Icaridin), a Known Insect Repellent. Int J Mol Sci. 2022 Aug 26;23(17):9696. doi: 10.3390/ijms23179696. PMID: 36077093; PMCID: PMC9456182.

In vivo study

1. Syed Z, Pelletier J, Flounders E, Chitolina RF, Leal WS. Generic insect repellent detector from the fruit fly Drosophila melanogaster. PLoS One. 2011 Mar 16;6(3):e17705. doi: 10.1371/journal.pone.0017705. PMID: 21436880; PMCID: PMC3059203.

7. Bioactivity
Biological target:

Picaridin (Icaridin) is a broad spectrum arthropod repellent. The repellent and deterrent activities of Picaridin involve olfactory sensing in mosquitoes, and ticks, via their interactions with odorant receptor proteins.

In vitro activity

Product data sheet

When the experimental data became least-squares fitted to a Hill function, as detailed in Materials and Methods, the half-maximal concentration (i.e., EC_{50}) required for the stimulatory effect of picaridin on $I_{Na(T)}$ or $I_{Na(L)}$ observed in these cells was yielded as 32.7 or 2.8 μM, respectively. Overall, the data from these experiments allowed this study to ascertain that the presence of picaridin caused a stimulatory but differential effect on $I_{Na(T)}$ and $I_{Na(L)}$ in a concentration-dependent manner.

Reference: Int J Mol Sci. 2022 Aug 26;23(17):9696. https://pubmed.ncbi.nlm.nih.gov/36077093/

In vivo activity

Using olfactory-based choice assay this study shows here that the fruit fly is repelled by not only DEET, but also IR3535 and picaridin thus suggesting they might have "generic repellent detector(s)," which may be of practical applications in new repellent screenings. Although the ab3A neuron in the wild type flies responded to picaridin, it was unresponsive to DEET and IR3535.

Reference: PLoS One. 2011 Mar 16;6(3):e17705. https://pubmed.ncbi.nlm.nih.gov/21436880/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.