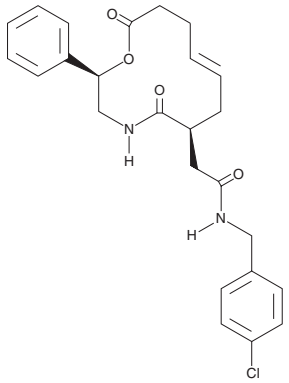
PRODUCT INFORMATION

Robotnikinin

Item No. 13204



CAS Registry No.:	1132653-79-2
Formal Name:	N-[(4-chlorophenyl)methyl]-5,12-dioxo-2R-phenyl-1-oxa-4-azacyclododec-8E-ene-6S-acetamide
MF:	$C_{25}H_{27}ClN_2O_4$
FW:	455.0
Purity:	≥95%
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

Robotnikinin is supplied as a crystallline solid. A stock solution may be made by dissolving the robotnikinin in the solvent of choice, which should be purged with an inert gas. Robotnikinin is soluble in ethanol, DMSO, and dimethyl formamide.

Description

Sonic hedgehog (Shh) is the most widely characterized of the three vertebrate Hedgehog homologs, and is essential for proper embryonic development.[1] Shh binds to its receptor, Patched (Ptch1), resulting in the de-repression of Smoothened.[2,3] This leads to the activation of Gli2, which regulates the transcription of target genes that include Gli1 and Ptch1. Robotnikinin is the first identified small molecule inhibitor of Shh signaling that acts upstream of Smo, binding directly to Shh with a K_d value of 3.1 µM.[4,5] Robotnikinin represses Gli-mediated transcription in primary human keratinocytes and synthetic human skin in a concentration-dependent manner.[4]

References

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2. Stone, D.M., Hynes, M., Armanini, M., *et al.* The tumour-suppressor gene patched encodes a candidate receptor for sonic hedgehog. *Nature* **384(6605)**, 129-133 (1996).
3. Rohatgi, R., Milenkovic, L., Corcoran, R.B., *et al.* Hedgehog signal transduction by smoothened: Pharmacologic evidence for a 2-step activation process. *Proc. Natl. Acad. Sci. USA* **106(9)**, 3196-3201 (2009).
4. Stanton, B.Z., Peng, L.F., Maloof, N., *et al.* A small molecule that binds hedgehog and blocks its signaling in human cells. *Nat. Chem. Biol.* **5(3)**, 154-156 (2009).
5. Stanton, B.Z. and Peng, L.F. Small-molecule modulators of the Sonic Hedgehog signaling pathway. *Mol. BioSyst.* **6(1)**, 44-54 (2010).

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