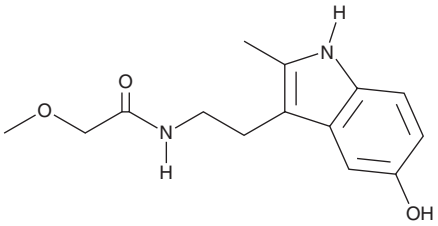
PRODUCT INFORMATION

SPRi 3

Item No. 30950

CAS Registry No.:	1292285-54-1
Formal Name:	N-[2-(5-hydroxy-2-methyl-1H-indol-3-yl)ethyl]-2-methoxy-acetamide
MF:	$C_{14}H_{18}N_2O_3$
FW:	262.3
Purity:	≥98%
Supplied as:	A 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

SPRi 3 is supplied as a solid. A stock solution may be made by dissolving the SPRi 3 in the solvent of choice, which should be purged with an inert gas. SPRi 3 is soluble in organic solvents such as ethanol and DMSO. The solubility of SPRi 3 in these solvents is approximately 100 mM.

Description

SPRi 3 is an inhibitor of sepiapterin reductase (SPR), an enzyme that catalyzes the formation of tetrahydrobiopterin (BH4), with IC_{50} values of 62 and 14 nM for the recombinant human and rat enzymes, respectively.[1] It is selective for SPR over GTP cyclohydroxylase 1 (GCH1) in primary mouse dorsal root ganglia sensory neurons at 10 µM.[2] SPRi 3 (50 µM) inhibits proliferation of anti-CD3 and anti-CD28 antibody-stimulated isolated human peripheral blood mononuclear cells (PBMCs) or $CD4^+$ T cells.[3] Intraperitoneal administration of SPRi 3 (300 mg/kg) decreases brain BH4 levels and reduces mechanical allodynia in mouse models of peripheral neuropathy induced by spared nerve injury (SNI) or chronic constriction injury (CCI).[2] It also decreases macrophage infiltration and thermal hyperalgesia in the inflamed joints of a mouse model of rheumatoid arthritis induced by complete Freund's adjuvant (CFA) at the same dose.

References

1. Meyer, J.T., Sparling, B.A., McCarty, W.J., *et al.* Pharmacological assessment of sepiapterin reductase inhibition on tactile response in the rat. *J. Pharmacol. Exp. Ther.* **371(2)**, 476-486 (2019).
2. Latremoliere, A., Latini, A., Andrews, N., *et al.* Reduction of neuropathic and inflammatory pain through inhibition of the tetrahydrobiopterin pathway. *Neuron.* **86(6)**, 1393-1406 (2015).
3. Cronin, S.J.F., Seehus, C., Weidinger, A., *et al.* The metabolite BH4 controls T cell proliferation in autoimmunity and cancer. *Nature* **563(7732)**, 564-568 (2018).

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