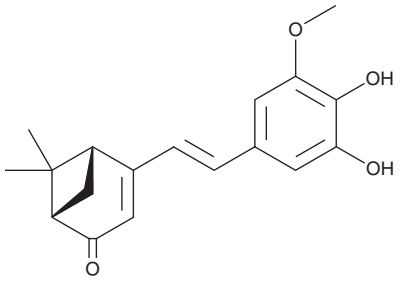
PRODUCT INFORMATION

SP-8356

Item No. 37481

CAS Registry No.:	1454885-45-0
Formal Name:	(1S,5R)-4-[(1E)-2-(3,4-dihydroxy-5-methoxyphenyl)ethenyl]-6,6-dimethyl-bicyclo[3.1.1]hept-3-en-2-one
MF:	$C_{18}H_{20}O_4$
FW:	300.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 266, 381 nm
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

SP-8356 is supplied as a solid. A stock solution may be made by dissolving the SP-8356 in the solvent of choice, which should be purged with an inert gas. SP-8356 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of SP-8356 in ethanol is approximately 10 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Description

SP-8356 is a derivative of (1S)-(–)-verbenone and an inhibitor of CD147, also known as extracellular matrix metalloproteinase (MMP) inducer (EMMPRIN) and previously known as tumor cell-derived collagenase stimulatory factor (TCSF).[1,2] It inhibits the dimerization of CD147 and the protein-protein interaction between CD147 and its ligand cyclophilin A. SP-8356 (10 µM) decreases recombinant human CD147-induced migration of A-10 vascular smooth muscle cells (VSMCs) and reduces cyclophilin A-induced increases in MMP-9 activity in, and adhesion of, isolated rat monocyte-derived macrophages. It also prevents glucose-oxygen deprivation-induced increases in reactive oxygen species (ROS) and lactate dehydrogenase (LDH) release in primary rat cortical neurons in an *in vitro* model of ischemia when used at a concentration of 10 µM.[3] SP-8356 (5 µM) inhibits the migration and invasion of MDA-MB-231 breast cancer cells.[4] *In vivo*, SP-8356 (50 mg/kg in the drinking water) decreases plaque size in an *ApoE*$^{-/-}$ mouse model of atherosclerosis induced by partial carotid artery ligation and a high-fat diet.[2]

References

1. Pahk, K., Noh, H., Joung, C., *et al.* A novel CD147 inhibitor, SP-8356, reduces neointimal hyperplasia and arterial stiffness in a rat model of partial carotid artery ligation. *J. Transl. Med.* **17(1)**, 274 (2019).
2. Pahk, K., Joung, C., Song, H.Y., *et al.* SP-8356, a novel inhibitor of CD147-cyclophilin A interactions, reduces plaque progression and stabilizes vulnerable plaques in apoE-deficient mice. *Int. J. Mol. Sci.* **21(1)**, 95 (2019).
3. Ju, C., Song, S., Hwang, S., *et al.* Discovery of novel (1*S*)-(–)-verbenone derivatives with anti-oxidant and anti-ischemic effects. *Bioorg. Med. Chem. Lett.* **23(19)**, 5421-5425 (2013).
4. Mander, S., Kim, D.H., Nguyen, H.T., *et al.* SP-8356, a (1S)-(–)-verbenone derivative, exerts *in vitro* and *in vivo* anti-breast cancer effects by inhibiting NF-κB signaling. *Sci. Rep.* **9(1)**, 6595 (2019).

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