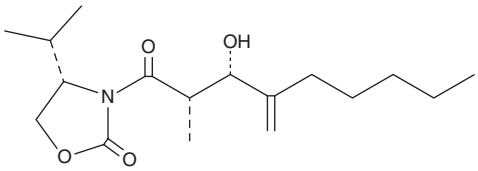
PRODUCT INFORMATION

LMT-28

Item No. 40837

CAS Registry No.:	1239600-18-0
Formal Name:	(4S)-3-[(2S,3S)-3-hydroxy-2-methyl-4-methylene-1-oxononyl]-4-(1-methylethyl)-2-oxazolidinone
MF:	$C_{17}H_{29}NO_4$
FW:	311.4
Purity:	≥98%
Supplied as:	A neat 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

LMT-28 is supplied as a neat oil. A stock solution may be made by dissolving the LMT-28 in the solvent of choice, which should be purged with an inert gas. LMT-28 is soluble (≥10 mg/ml) in ethanol and DMSO.

Description

LMT-28 is an inhibitor of the protein-protein interaction between glycoprotein 130 (gp130) and the IL-6-bound form of IL-6 receptor subunit α (IL-6Rα).[1] It binds to gp130 (K_d = 7.4 µM) and selectively inhibits IL-6-induced STAT3 phosphorylation over leukemia inhibitor factor- or phorbol 12-myristate 13-acetate-induced STAT3 phosphorylation in HepG2 cells at 10, 30, or 100 µM. LMT-28 (10 to 1,000 nM) reduces IL-6 induced increases in the viability of GM-CSF-starved TF-1 leukemia cells. It inhibits the increases in mRNA encoding Rankl, as well as inhibits increases in the phosphorylation levels of gp130, Stat3, and JAK2, induced by LPS and advanced glycation end products (AGEs) in mouse MC3T3-E1 osteoblasts when used at a concentration of 100 nM.[2] LMT-28 (0.25 mg/kg per day) decreases joint and paw swelling, as well as serum levels of cartilage oligomeric matrix protein (COMP), serum amyloid protein (SAP), and anti-collagen II antibodies, in a mouse model of collagen-induced arthritis.[1] Oral administration of LMT-28 (0.23 mg/kg per day) reduces bone resorption height and volume in a rat model of type 2 diabetes peri-implantitis induced by LPS, *P. gingivalis*, and a high-fat and high-sugar diet.[2]

References

1. Hong, S.-S., Choi, J.H., Lee, S.Y., *et al.* A novel small-molecule inhibitor targeting the IL-6 receptor β subunit, glycoprotein 130. *J. Immunol.* **195(1)**, 237-245 (2015).
2. Liu, Q.-Q., Wu, W.-W., Yang, J., *et al.* A GP130-targeting small molecule, LMT-28, reduces LPS-induced bone resorption around implants in diabetic models by inhibiting IL-6/GP130/JAK2/STAT3 signaling. *Mediators Inflamm.* 933049 (2023).

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