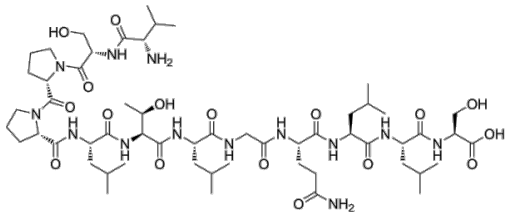
Product Data Sheet

Product Name: VSPPLTLGQLLS
Cat. No.: GC74365

Chemical Properties

Cas. No.	1206896-24-3		
Formula	$C_{56}H_{97}N_{13}O_{17}$	M.Wt	1224.45
Solubility	H_2O : 50 mg/mL (40.83 mM; Need ultrasonic)	Storage	Sealed storage, away from moisture and light
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Background

VSPPLTLGQLLS is a small peptide FGFR3 inhibitor, peptide P3, inhibits FGFR3 phosphorylation. VSPPLTLGQLLS inhibits 9-cisRA-induced tracheal lymphangiogenesis and blocks lymphatic endothelial cell (LEC) proliferation, migration, and tubule formation.

Caution: Product has not been fully validated for medical applications. For research use only.
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VSPPLTLGQLLS (5 μM and 10 μM; 24 h and 48 h) inhibits human primary lymphatic endothelial cell (LEC)s proliferation, migration, and tubule formation[1].VSPPLTLGQLLS shows effective inhibition in FGFR3 phosphorylation in LECs and also demonstrated to be effective in ATDC5 chondrogenic cells, 293T cells, explanted metatarsal bone cultures, and an in vivo mouse model of thanatophoric dysplasia II[1][2].VSPPLTLGQLLS (10 μM; 6 h) inhibits tyrosine kinase activity of FGFR3 and its typical downstream molecules, extracellular signal-regulated kinase/mitogen-activated protein kinase[2].VSPPLTLGQLLS (0, 1, 10, and 50 μM; 24 h and 3 or 7 days, respectively) also promotes proliferation and chondrogenic differentiation of cultured ATDC5 chondrogenic cells[2].VSPPLTLGQLLS (10 μM; 0-60 min) inhibits the ERK/MAPK pathway in FGFR3-expressing chondrocytic cell line ATDC5[2].

VSPPLTLGQLLS (1 mM; intranasal dropping; onced daily for 7 d) blocks 9-cisRA-induced lymphangiogenesis in vivo, while 9-cisRA is an isoform of vitamin A involving in AIDS-related Kaposi Sarcoma[1].VSPPLTLGQLLS alleviates the bone growth retardation in bone rudiments from mice mimicking human thanatophoric dysplasia type II (TDII), reversed the neonatal lethality of TDII mice[2].

References:
[1]. Perrault DP, et al. Small Peptide Modulation of Fibroblast Growth Factor Receptor 3-Dependent Postnatal Lymphangiogenesis. Lymphat Res Biol. 2019 Feb;17(1):19-29.
[2]. Jin M, et al. A novel FGFR3-binding peptide inhibits FGFR3 signaling and reverses the lethal phenotype of mice mimicking human thanatophoric dysplasia. Hum Mol Genet. 2012 Dec 15;21(26):5443-55.