Product Data Sheet

Product Name: Stearyl-(homoarginine)8 (trifluoroacetate salt)
Cat. No.: GC92104

Chemical Properties

Cas. No.			
Chemical Name	N-((7S,10S,13S,16S,19S,22S,25S,28S)-1,34-diamino-7-carbamoyl-10,13,16,19,22,25-hexakis(4-guanidinobutyl)-1,34-diimino-9,12,15,18,21,24,27-heptaoxo-2,8,11,14,17,20,23,26,33-nonaazatetratriacontan-28-yl)stearamide, trifluoroacetate salt		
SMILES	CCCCCCCCCCCCCCCCCC(N[C@@H](CCCCNC(N)=N)C(N[C@H](C(N[C@@H](CCCCNC(N)=N)C(N[C@H](C(N[C@@H](CCCCNC(N)=N)C(N[C@@H](CCCCNC(N)=N)C(N[C@@H](CCCCNC(N)=N)C(N[C@H](C(N)=O)CCCCNC(N)=N)=O)=O)=O)=O)CCCCNC(N)=N)=O)=O)CCCCNC(N)=N)=O)=O.OC(C(F)(F)F)=O		
Formula	$C_{74}H_{149}N_{33}O_9$? XCF_3COOH	M.Wt	1645.2
Solubility	Water: Slightly soluble: 0.1-1 mg/ml	Storage	-20°C
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.		

Caution: Product has not been fully validated for medical applications. For research use only.
Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
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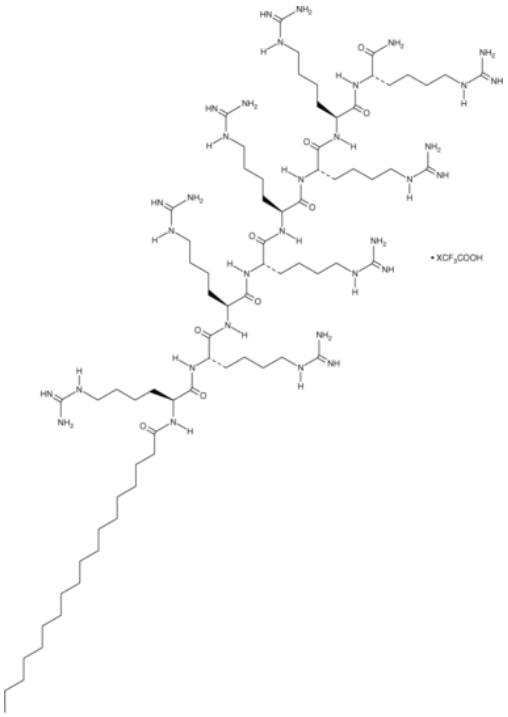
Structure



Background

Stearyl-(homoarginine)8 is a cell-penetrating peptide conjugated to stearic acid that has been used in the generation of liposomes for plasmid DNA or siRNA delivery *in vitro*.[1,2] Liposomes containing stearyl-(homoarginine)8 and in complex with plasmid DNA enter NIH3T3 cells *via* the endocytosis pathway.[1] Liposomes containing a high density, but not a low density, of stearyl-(homoarginine)8 and encapsulating plasmid DNA increase plasmid DNA expression without being degraded by lysosomes in NIH3T3 cells.[2] Stearyl-(homoarginine)8-containing liposomes encapsulating siRNA targeting the mRNA encoding GAPDH decrease GAPDH levels in primary human aortic smooth muscle cells.[3]

References:

[1]. Khalil, I.A., Futaki, S., Niwa, M., et al.Mechanism of improved gene transfer by the N-terminal stearylation of octaarginine: Enhanced cellular association by hydrophobic core formationGene Ther.11(7)636-644(2004).
[2]. Khalil, I.A., Kogure, K., Futaki, S., et al.High density of octaarginine stimulates macropinocytosis leading to efficient intracellular trafficking for gene expressionJ. Biol. Chem.281(6)3544-3551(2006).
[3]. Fisher, R.K., Mattern-Schain, S.I., Best, M.D., et al.Improving the efficacy of liposome-mediated vascular gene therapy via lipid surface modificationsJ. Surg. Res.219136-144(2017).

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