

PRODUCT INFORMATION



Dios-Arg (trifluoroacetate salt)

Item No. 25945

CAS Registry No.: 1807353-31-6
Formal Name: (3 β ,25R)-3-[6-[[[(2S)-2-amino-5-[[aminoiminomethyl]amino]-1-oxopentyl]amino]hexanoate]spirost-5-en-3-ol, bis(2,2,2-trifluoroacetate)

MF: C₃₉H₆₇N₅O₅ • 2CF₃COO
FW: 912.0

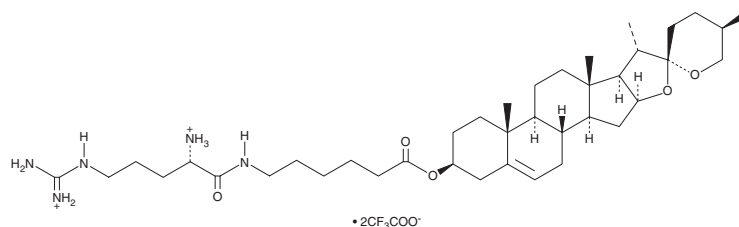
Purity: $\geq 95\%$

UV/Vis.: λ_{max} : 262 nm

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Dios-Arg (trifluoroacetate salt) is supplied as a solution in ethanol. A stock solution may be made by dissolving the Dios-Arg (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Dios-Arg (trifluoroacetate salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of Dios-Arg (trifluoroacetate salt) in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of Dios-Arg (trifluoroacetate salt) is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of Dios-Arg (trifluoroacetate salt) in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Dios-Arg is a steroid-based cationic lipid that contains a diosgenin skeleton coupled to an L-arginine head group.¹ It forms a complex with plasmid DNA and decreases plasmid DNA migration in an agarose-gel retardant assay at charge ratio greater than or equal to 4.² Dios-Arg facilitates transfection of plasmid DNA into H1299 and HeLa cells in the presence and absence of fetal bovine serum, an effect that is reversed by the lipid raft-mediated endocytosis inhibitor methyl- β -cyclodextrin (Item No. 21633) and the caveolae-mediated endocytosis inhibitor genistein (Item No. 10005167). It has been used, coupled to 1,2-dioleoyl-*sn*-glycero-3-PE (DOPE; Item No. 15091), to bind siRNA and plasmid DNA to form cationic lipid nanoparticles (LNPs) for intracellular transport. Dios-Arg is cytotoxic to H1299 and HeLa cells (IC_{50} s = 83.5 and 74.1 $\mu\text{g/ml}$, respectively).²

References

- Sheng, R., Zhuang, X., Wang, Z., *et al.* Cationic nanoparticles assembled from natural-based steroid lipid for improved intracellular transport of siRNA and pDNA. *Nanomaterials (Basel)* **6(4)**, 69 (2016).
- Sheng, R., Wang, Z., Luo, T., *et al.* Skeleton-controlled pDNA delivery of renewable steroid-based cationic lipids, the endocytosis pathway analysis and intracellular localization. *Int. J. Mol. Sci.* **19(2)**, 369 (2018).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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