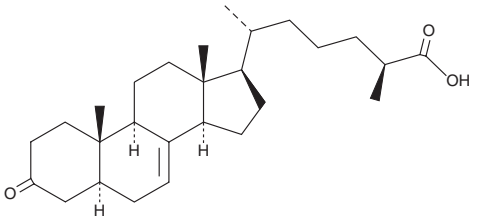
PRODUCT INFORMATION

(25S)-Δ^7-Dafachronic Acid

Item No. 14101

CAS Registry No.: 949004-12-0
Formal Name: (5α,25S)-3-oxo-cholest-7-en-26-oic acid
Synonyms: (25S)-Δ^7-DA, UPF-1404
MF: $C_{27}H_{42}O_3$
FW: 414.6
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

(25S)-Δ^7-Dafachronic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the (25S)-Δ^7-dafachronic acid in the solvent of choice. (25S)-Δ^7-Dafachronic acid is soluble in organic solvents such as ethanol, DMSO, and methanol, which should be purged with an inert gas.

Description

During unfavorable environmental conditions, *C. elegans* larvae undergo arrest and form dauer larvae that can attach to other animals as a parasitic strategy for survival.[1,2] DAF-12 is an orphan nuclear hormone receptor that regulates dauer larva diapause, reproductive development, fat metabolism, and life cycle/longevity in *C. elegans*.[3-5] DAF-12 is required for entry into dauer when it is not bound to ligand by acting as a transcriptional repressor of target genes that favor reproductive development. (25S)-Δ^7-Dafachronic acid is a sterol-derived hormone that acts as a ligand of DAF-12 with an EC_{50} value of 23 nM.[3,6-8] At 50 nM, (25S)-Δ^7-Dafachronic acid inhibits the dauer-promoting activity of DAF-12, blocking the formation of infective larvae in several parasitic nematodes in favor of reproductive maturation to adults.[1,9] Thus, selective ligand modulators of DAF-12 are a potential therapeutic approach to stop larvae progression during parasitic infection.[2]

References

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