

PRODUCT INFORMATION



(S)-Acenocoumarol

Item No. 9000336

CAS Registry No.: 66556-78-3
Formal Name: 4-hydroxy-3-[(1S)-1-(4-nitrophenyl)-3-oxobutyl]-2H-1-benzopyran-2-one

Synonyms: (S)-Acenocoumarin,
(S)-Nicoumalone

MF: C₁₉H₁₅NO₆

FW: 353.3

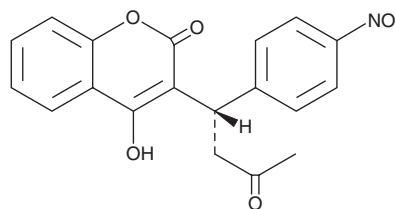
Purity: ≥98%

UV/Vis.: λ_{max}: 291 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

(S)-Acenocoumarol is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-acenocoumarol in the solvent of choice, which should be purged with an inert gas. (S)-Acenocoumarol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (S)-Acenocoumarol in these solvents is approximately 02, 10, and 20 mg/ml, respectively.

(S)-Acenocoumarol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (S)-acenocoumarol should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (S)-Acenocoumarol has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(S)-Acenocoumarol has a shorter plasma elimination half-life (1.8 hours) and faster plasma clearance (28.5 L/hour), compared to the (R)-enantiomer (6.6 hours, 1.9 L/hour).¹ The S-enantiomer undergoes extensive first-pass metabolism during absorption from the gastrointestinal tract, whereas (R)-acenocoumarol is rapidly absorbed and provides essentially complete oral bioavailability.¹ Perhaps related to these pharmacokinetic characteristics, (S)-acenocoumarol is less potent *in vivo* as an anti-coagulant than the (R)-enantiomer. As the clearance of acenocoumarol is ~20-fold faster than that for warfarin, the plasma concentrations of acenocoumarol are substantially lower than those for warfarin in patients receiving long-term treatment.

Reference

1. Ufer, M. Comparative pharmacokinetics of vitamin K antagonists warfarin, phenprocoumon and acenocoumarol. *Clin. Pharmacokinet.* **44**(12), 1227-1246 (2005).

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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