

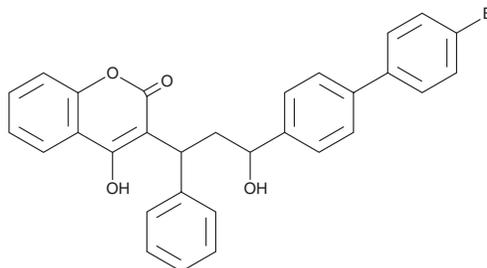
PRODUCT INFORMATION



Bromadiolone

Item No. 26854

CAS Registry No.: 28772-56-7
Formal Name: 3-[3-(4'-bromo[1,1'-biphenyl]-4-yl)-3-hydroxy-1-phenylpropyl]-4-hydroxy-2H-1-benzopyran-2-one
Synonyms: Bromatrol, Broprodifacoum
MF: C₃₀H₂₃BrO₄
FW: 527.4
Purity: ≥95% (mixture of diastereomers)
UV/Vis.: λ_{max}: 266 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

Bromadiolone is supplied as a crystalline solid. A stock solution may be made by dissolving the bromadiolone in the solvent of choice, which should be purged with an inert gas. Bromadiolone is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of bromadiolone in these solvents is approximately 30 mg/ml.

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

Description

Bromadiolone is a second generation anticoagulant rodenticide and 4-hydroxycoumarin derivative.^{1,2} It is an inhibitor of vitamin K epoxide reductase (VKOR) that inhibits blood clotting. It inhibits human VKOR complex subunit 1 (VKORC1) with an IC₅₀ value of 1.6 nM in a cell-based assay.³ Bromadiolone is toxic to rodents, including mice (LD₅₀ = 1.75 mg/kg) and rats (LD₅₀s = 1.05 and 1.83 mg/kg for males and females, respectively).^{4,5} It does not significantly affect breeding performance in mice when administered at a dose of up to 70% of the LD₅₀ value.⁶ Resistance to bromadiolone is conferred by mutations to the VKOR gene, *Vkorc1*.⁷ Formulations containing bromadiolone have been used in the control of rodent pest populations.

References

1. Watt, B.E., Proudfoot, A.T., Bradberry, S.M., et al. *Toxicol. Rev.* **24(4)**, 259-269 (2005).
2. Misenheimer, T.M., Lund, M., Baker, A.E.M., et al. *Biochem. Pharmacol.* **47(4)**, 673-678 (1994).
3. Czogalla, K.J., Liphardt, K., Höning, K., et al. *Blood Adv.* **2(6)**, 691-702 (2018).
4. Vandenbroucke, V., Bousquet-Melou, A., De Backer, P., et al. *J. Vet. Pharmacol. Ther.* **31(5)**, 437-445 (2008).
5. Garg, N. and Singla, N. *Cibtech J. Zoo.* **3(2)**, 43-48 (2014).
6. Twigg, L.E. and Kay, B.J. *Comp. Biochem. Physiol.* **110(1)**, 77-82 (1995).
7. Pelz, H.-J., Rost, S., Hünerberg, M., et al. *Genetics* **170(4)**, 1839-1847 (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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