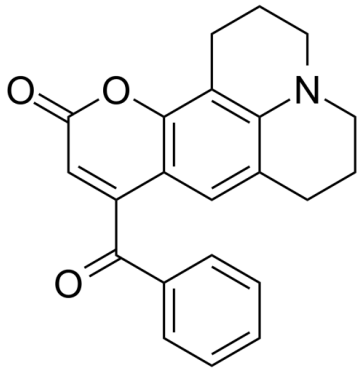
Data Sheet

Product Name:	Coumberone
Cat. No.:	CS-0181754
CAS No.:	878019-47-7
Molecular Formula:	$C_{22}H_{19}NO_3$
Molecular Weight:	345.39
Target:	Others
Pathway:	Others
Solubility:	DMSO : 16.67 mg/mL (48.26 mM; ultrasonic and warming and heat to 70°C)



BIOLOGICAL ACTIVITY:

Coumberone is a metabolic fluorogenic probe, and isoform-selective substrate for all AKR1C isoforms. Coumberone can be reduced by all four members of the AKR1C family to its fluorescent alcohol coumberol. Coumberone can be used for the research of AKR1C[1][2]. **In Vitro:** Coumberone (30 μM; 24 hours; HCT116 cells) is an AKR1C3 substrate and demonstrates maximal rates at ~10 μM[1]. Coumberone (5 μM; 24 hours; COS-1 cells) can be used for the selective optical readout of each isoform, either AKR1C2 or AKR1C3[2]. Coumberone (5 μM; 24 hours; IMR32 cells) enables real-time imaging of AKR1C induction[2]. Coumberone (80 hours; IMR-32 cells) metabolism is indeed increased. Coumberone exhibits 10-fold greater catalytic efficiency for AKR1C3 than AKR1C2 in vitro[2].

References:

[1]. Jamieson SM, et al. A novel fluorometric assay for aldo-keto reductase 1C3 predicts metabolic activation of the nitrogen mustard prodrug PR-104A in human leukaemia cells. Biochem Pharmacol. 2014;88(1):36-45.

[2]. Halim M, et al. Imaging induction of cytoprotective enzymes in intact human cells: coumberone, a metabolic reporter for human AKR1C enzymes reveals activation by panaxytriol, an active component of red ginseng. J Am Chem Soc. 2008;130(43):14123-14128.

CAIndexNames:

1H,5H,11H-[1]Benzopyrano[6,7,8-ij]quinolizin-11-one, 9-benzoyl-2,3,6,7-tetrahydro-

SMILES:

O=C1OC2=C(C(C(C3=CC=CC=C3)=O)=C1)C=C4C5=C2CCCN5CCC4

Caution: Product has not been fully validated for medical applications. For research use only.

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