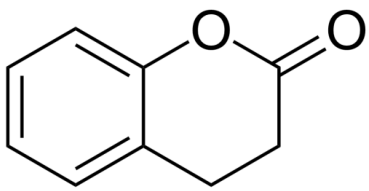
Data Sheet

Product Name:	Dihydrocoumarin
Cat. No.:	CS-0018237
CAS No.:	119-84-6
Molecular Formula:	C9H8O2
Molecular Weight:	148.16
Target:	Sirtuin
Pathway:	Cell Cycle/DNA Damage; Epigenetics
Solubility:	10 mM in DMSO



BIOLOGICAL ACTIVITY:

Dihydrocoumarin is a compound found in Melilotus officinalis. Dihydrocoumarin is a **yeast Sir2p** inhibitor. Dihydrocoumarin also inhibits **human SIRT1** and **SIRT2** with **IC_{50}**s of 208 μM and 295 μM, respectively[1]. **In Vitro:** Dihydrocoumarin induces a concentration-dependent inhibition of SIRT1 (IC_{50} of 208 μM) in an in vitro enzymatic assay. A decrease in SIRT1 deacetylase activity is observed even at micromolar doses (85±5.8 and 73±13.7% activity at 1.6 μM and 8 μM, respectively). The microtubule SIRT2 deacetylase is also inhibited with a similar dose dependency (IC_{50} of 295 μM)[1].

Dihydrocoumarin (1-5 mM) increases cytotoxicity in the TK6 cell line in a dose-dependent manner following a 24-h exposure.

Dihydrocoumarin (1-5 mM) increases apoptosis in a dose-dependent manner in the TK6 cell line at the 6-h time point. A 5-mM dose of Dihydrocoumarin increases apoptosis at the 6-h time point in the TK6 cell line[1].

Dihydrocoumarin (1-5 mM) increases p53 lysine 373 and 382 acetylation in a dose-dependent manner in the TK6 cell line following a 24-h exposure period[1].

References:

[1]. Olaharski AJ, et al. The flavoring agent Dihydrocoumarin reverses epigenetic silencing and inhibits sirtuindeacetylases. PLoS Genet. 2005 Dec;1(6):e77.

CAIndexNames:

2H-1-Benzopyran-2-one, 3,4-dihydro-

SMILES:

O=C1CCC2=CC=CC=C2O1

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