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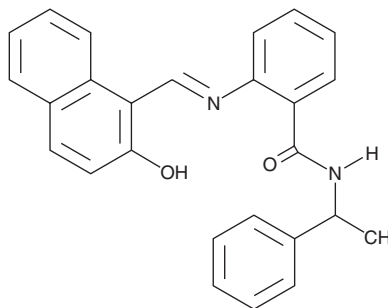
PRODUCT INFORMATION



Sirtinol

Item No. 10523

CAS Registry No.: 410536-97-9
Formal Name: 2-[[[2-(2-hydroxy-1-naphthalenyl)methylene]amino]-N-(1-phenylethyl)-benzamide
Synonym: Sir Two Inhibitor Naphthol
MF: C₂₆H₂₂N₂O₂
FW: 394.5
Purity: ≥98%
UV/Vis.: λ_{max}: 231, 317, 374, 439 nm
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

Sirtinol is supplied as a crystalline solid. A stock solution may be made by dissolving the sirtinol in the solvent of choice, which should be purged with an inert gas. Sirtinol is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of sirtinol in these solvents is approximately 10 and 15 mg/ml, respectively.

Sirtinol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sirtinol should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Sirtinol has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sirtinol is a cell-permeable inhibitor of sirtuin NAD⁺-dependent deacetylases, inhibiting the yeast sirtuin Sir2p with an IC₅₀ value of 68 μM and the human sirtuins SIRT1 and SIRT2 with IC₅₀ values of 131 and 38 μM, respectively.¹ It does not alter HDAC1 activity.¹ Sirtinol inhibits the growth of cancer cells and suppresses inflammatory signaling in human dermal microvascular endothelial cells.²⁻⁴ In plants, sirtinol can be metabolized to 2-hydroxy-1-naphthoic acid, which activates auxin signaling and alters plant growth and development.^{5,6}

References

1. Grozinger, C.M., Chao, E.D., Blackwell, H.E., *et al.* Identification of a class of small molecule inhibitors of the sirtuin family of NAD-dependent deacetylases by phenotypic screening. *J. Biol. Chem.* **276**(42), 38837-38843 (2001).
2. Ota, H., Tokunaga, E., Chang, K., *et al.* Sirt1 inhibitor, sirtinol, induces senescence-like growth arrest with attenuated Ras-MAPK signaling in human cancer cells. *Oncogene* **25**, 176-185 (2006).
3. Cea, M., Soncini, D., Fruscione, F., *et al.* Synergistic interactions between HDAC and sirtuin inhibitors in human leukemia cells. *PLoS One* **6**(7), 1-12 (2011).
4. Orecchia, A., Scarponi, C., Di Felice, F., *et al.* Sirtinol treatment reduces inflammation in human dermal microvascular endothelial cells. *PLoS One* **6**(9), 1-12 (2011).
5. Zhao, Y., Dai, X., Blackwell, H.E., *et al.* SIR1, an upstream component in auxin signaling identified by chemical genetics. *Science* **301**, 1107-1110 (2003).
6. Dai, X., Hayashi, K., Nozaki, H., *et al.* Genetic and chemical analyses of the action mechanisms of sirtinol in Arabidopsis. *Proc. Natl. Acad. Sci. USA* **102**(8), 3129-3134 (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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