

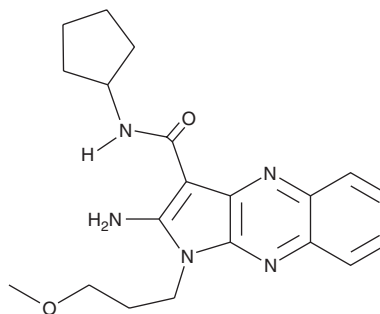
PRODUCT INFORMATION



CAY10591

Item No. 10009797

CAS Registry No.: 839699-72-8
Formal Name: 2-amino-N-cyclopentyl-1-(3-methoxypropyl)-1H-pyrrolo[2,3-b]quinoxaline-3-carboxamide
Synonyms: SIRT1 Activator 3, Sirtuin 1 Activator 3
MF: C₂₀H₂₅N₅O₂
FW: 367.5
Purity: ≥98%
UV/Vis.: λ_{max}: 234, 253, 273, 335, 381 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

CAY10591 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10591 in the solvent of choice, which should be purged with an inert gas. CAY10591 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of CAY10591 in these solvents is approximately 1, 20, and 30 mg/ml, respectively.

CAY10591 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CAY10591 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CAY10591 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sirtuins (SIRT) represent a distinct class of trichostatin A-insensitive lysyl-deacetylases (class III HDACs). Human SIRT1 is the homolog of yeast silent information regulator 2 (Sir2) and has been shown to regulate the activity of the p53 tumor suppressor and inhibit apoptosis. Small molecule activators of SIRT1, such as resveratrol, extend lifespan in yeast and *C. elegans* in a manner that resembles caloric restriction. CAY10591 has been identified as an activator of the enzyme SIRT1. This compound increases fluorescence by 233% in a SIRT1 activity assay.¹ [Activator activity was defined as the percentage of signal increase relative to signal window in the following formula: $100 \times (\text{Sample} - \text{Signal}_{\text{low}}) / (\text{Signal}_{\text{high}} - \text{Signal}_{\text{low}})$]. CAY10591 suppresses TNF-α in a dose-dependent manner. In THP-1 cells, TNF-α levels decreased from 325 pg/ml (control) to 104 and 53 pg/ml with 20 and 60 μM CAY10591, respectively. This activator also has a significant dose-dependent effect on fat mobilization in differentiated adipocytes, which would indicate the potential of SIRT1 activators for anti-obesity or anti-diabetic purposes.¹

Reference

1. Nayagam, V.M., Wang, X., Tan, Y.C., *et al.* SIRT1 modulating compounds from high-throughput screening as anti-inflammatory and insulin-sensitizing agents. *J. Biomol. Screen.* **11(8)**, 959-967 (2006).

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.

WARRANTY AND LIMITATION OF REMEDY

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM