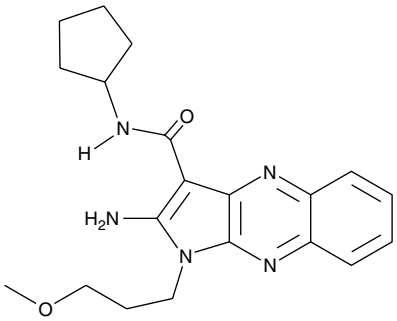
Product Information

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:	$C_{20}H_{25}N_5O_2$
FW:	367.5
Purity:	≥98%
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 234, 253, 273, 335, 381 nm



Laboratory Procedures

For long term storage, we suggest that CAY10591 be stored as supplied at -20°C. It should be stable for at least two years.

CAY10591 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10591 in an organic solvent purged with an inert gas. CAY10591 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. 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.

Sirtuins (SIRTs) 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 x (Sample - $Signal_{low}$)/($Signal_{high}$ - $Signal_{low}$)]. 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. *Journal of Biomolecular Screening* **11(8)**, 959-967 (2006).

Related Products

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