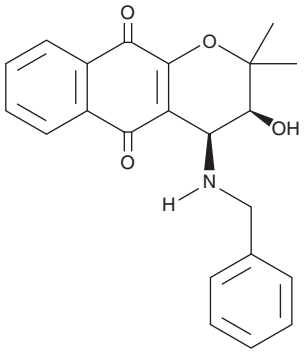
PRODUCT INFORMATION

CAY10581

Item No. 16838



CAS Registry No.:	1018340-07-2
Formal Name:	(±)3,4-dihydro-3-hydroxy-2,2-dimethyl-4-[(phenylmethyl)amino]-2H-naphtho[2,3-b]pyran-5,10-dione
MF:	$C_{22}H_{21}NO_4$
FW:	363.4
Purity:	≥97%
UV/Vis.:	λ_{max}: 252, 279, 334 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

CAY10581 is supplied as a crystalline solid. A stock solution may be made by dissolving the CAY10581 in the solvent of choice, which should be purged with an inert gas. CAY10581 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of CAY10581 in these solvents is approximately 3 and 10 mg/ml, respectively.

CAY10581 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CAY10581 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CAY10581 has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The enzyme indoleamine 2,3-dioxygenase (IDO) has been implicated in mediating pathological immunosuppression associated with certain diseases, including cancer. Several naphthoquinones inhibit IDO *in vitro* and in cells, but at low (µM) potency.[1] Importantly, naphthoquinones reduce tumor growth in wild type mice but not in IDO-deficient mice.[1] CAY10581 is a naphthoquinone derivative that potently inhibits IDO (IC_{50} = 55 nM).[1] It is a more potent inhibitor of IDO than annulin B or 1-methyl-d-tryptophan (1MT). CAY10581 acts as a reversible uncompetitive inhibitor of IDO and demonstrates minimal impact on cell viability at 100 µM after 24 hours.[1]

References

1. Kumar, S., Malachowski, W.P., DuHadaway, J.B., *et al.* Indoleamine 2,3-dioxygenase is the anticancer target for a novel series of potent naphthoquinone-based inhibitors. *J. Med. Chem.* **51(6)**, 1706-1718 (2008).

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