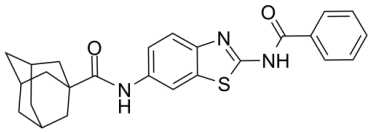
Data Sheet

Product Name:	NVP 231
Cat. No.:	CS-1808
CAS No.:	362003-83-6
Molecular Formula:	C25H25N3O2S
Molecular Weight:	431.55
Target:	Others
Pathway:	Others
Solubility:	DMSO : ≥ 41 mg/mL (95.01 mM)



BIOLOGICAL ACTIVITY:

NVP-231 is a potent, specific, and reversible CerK inhibitor(IC50=12±2 nM) that competitively inhibits binding of ceramide to CerK. IC50 Value: 12±2 nM [1] Target: CERK in vitro: NVP-231 showed an IC50 value of 12 ± 2 nM and 90% inhibition at 100 nM in the radioassay. NVP-231 did not compete with ATP but rather with ceramide, displaying an inhibition constant (Ki) of 7.4 nM. Furthermore, inhibition by NVP-231 was instantaneous and fully reversible, implying that this compound does not covalently modify CerK. At 10 nM, NVP-231 inhibited C1P formation by >50%; at 100 nM, NVP-231 achieved complete inhibition. Thus the potency and efficacy of NVP-231 observed in cell culture are consistent with those found in vitro. It is noteworthy that, NVP-231 did not inhibit GlcCer and SM formation; rather, it increased these metabolites in correlation with compound concentration, demonstrating that NVP-231 does not act as a general inhibitor of ceramide metabolism [1]. The EC(50) of NVP-231 in this assay is in the low nanomolar range, consistent with the IC(50) determined in activity assays in vitro using purified CerK [2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [1] COS and COS-CerK cells were seeded into a 12-well plate with 0.8 × 105 cells/well. A concentration range of compound 1 (NVP-231) was tested in a 2-h cell-based CerK assay with the use of 5 μM NBD-Cer. After lipid extraction, samples were run on a TLC followed by imaging (left) and densitometry measurements (right). NVP-231 (50 nM) was tested on mouse peritoneal macrophages seeded to 2 × 105 cells/well in a 24-well plate and incubated for 2 h in the presence of 5 μM NBD-Cer; comparison with Cerk(-/-) cells.

References:

[1]. Graf C, et al. Targeting ceramide metabolism with a potent and specific ceramide kinase inhibitor. Mol Pharmacol. 2008 Oct;74(4):925-32.

[2]. Graf C, et al. A secondary assay for ceramide kinase inhibitors based on cell growth inhibition by short-chain ceramides. Anal Biochem. 2009 Jan 1;384(1):166-9.

CAIndexNames:

Tricyclo[3.3.1.13,7]decane-1-carboxamide,N-[2-(benzoylamino)-6-benzothiazolyl]-

SMILES:

O=C(C1(C[C@@H](C2)C3)C[C@@H]3C[C@@H]2C1)NC4=CC=C5N=C(NC(C6=CC=CC=C6)=O)SC5=C4

Caution: Product has not been fully validated for medical applications. For research use only.

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