SZABO SCANDIC

Part of Europa Biosite

# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


**SZABO-SCANDIC HandelsgmbH**

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

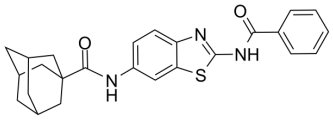
mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

# NVP 231

| | |
|---|---|
| **Cat. No.:** | HY-13945 |
| **CAS No.:** | 362003-83-6 |
| **Molecular Formula:** | $C_{25}H_{25}N_3O_2S$ |
| **Molecular Weight:** | 431.55 |
| **Target:** | Apoptosis |
| **Pathway:** | Apoptosis |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 2 years<br>-20°C 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 41 mg/mL (95.01 mM)

* "≥" means soluble, but saturation unknown.

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.3172 mL | 11.5861 mL | 23.1723 mL |
| 5 mM | 0.4634 mL | 2.3172 mL | 4.6345 mL |
| 10 mM | 0.2317 mL | 1.1586 mL | 2.3172 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.79 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.79 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.79 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

NVP 231 is a potent, specific, and reversible ceramide kinase (CerK) inhibitor($IC_{50}$=12 nM) that competitively inhibits binding of ceramide to CerK[1]. NVP 231 induces cell apoptosis by increasing DNA fragmentation and caspase-3 and caspase-9 cleavage[2].

**$IC_{50}$ & Target**

IC50: 12 nM (CerK); apoptosis[1][3]

**In Vitro**

NVP-231 (0-500 nM; 24 hours) gradually reduces the cellular CerK activity, as measured by NBD-C1P formation, demonstrating that NVP-231 active in transfected cells. The $IC_{50}$ for CerK in this cellular system is 59.70 ± 12 nM[3].

NVP-231 (0-1000 nM; 48 hours) decreases cell viability as a dose-dependent manner. This compound shows $IC_{50}$ values of 1 μM in MCF-7 cells and 500 nM in NCI-H358 cells[3].

NVP-231 (1 μM; 24-72 hours) induces caspase-3 and caspase-9 cleavage in both cell lines. However, the highest caspase-3 and caspase-9 cleavage and activation occurred at 24 hours in MCF-7 cells, then decreases again. In NCI-H358 cells, caspase-3 and caspase-9 cleavage occurrs continuously over 72 hours[3].

NVP-231 (0-500 nM; 24 hours) causes a concentration-dependent up-regulation of cyclin B1 phosphorylation at Ser133 and a reduction of CDK1 phosphorylation at Tyr15. The total CDK1 expression also declined upon CerK inhibition[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[3]

| | |
|---|---|
| Cell Line: | MCF-7 cells; NCI-H358 cells |
| Concentration: | 0 nM, 10 nM, 100 nM, 300 nM, 500 nM, 1000 nM |
| Incubation Time: | 48 hours |
| Result: | Reduced MCF-7 cells and NCI-H358 cells in a concentration manner. |

Apoptosis Analysis[3]

| | |
|---|---|
| Cell Line: | MCF-7 cells; NCI-H358 cells |
| Concentration: | 1000 nM |
| Incubation Time: | 24-72 hours |
| Result: | Increases caspase-3 and caspase-9 cleavage in MCF-7 and NCI-H358 cells. |

Western Blot Analysis[3]

| | |
|---|---|
| Cell Line: | MCF-7 cells; NCI-H358 cells |
| Concentration: | 0 nM, 100 nM, 300 nM, 500 nM |
| Incubation Time: | 24 hours |
| Result: | Decreased p-cyclin B1, p-CDK1 as a concentration manner. |

## CUSTOMER VALIDATION

- Pharmacol Res. 2022 Nov 18;106558.
- bioRxiv. 2023 Sep 12.

See more customer validations on www.MedChemExpress.com

## 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.

[3]. Pastukhov O,et al. The ceramide kinase inhibitor NVP-231 inhibits breast and lung cancer cell proliferation by inducing M phase arrest and subsequent cell death.Br J Pharmacol. 2014 Dec;171(24):5829-44.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA