



# SZABO SCANDIC

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## Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

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- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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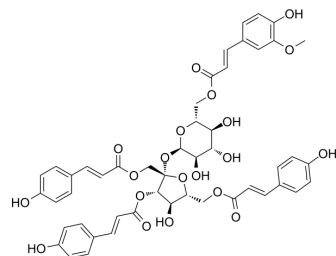
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## Vanicoside B

<b>Cat. No.:</b>	HY-N9561
<b>CAS No.:</b>	155179-21-8
<b>Molecular Formula:</b>	C <sub>49</sub> H <sub>48</sub> O <sub>20</sub>
<b>Molecular Weight:</b>	956.89
<b>Target:</b>	CDK; STAT
<b>Pathway:</b>	Cell Cycle/DNA Damage; JAK/STAT Signaling; Stem Cell/Wnt
<b>Storage:</b>	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (104.51 mM; Need ultrasonic)																							
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent Concentration</th> <th colspan="3">Mass</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td><b>Preparing Stock Solutions</b></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1 mM</td> <td>1.0451 mL</td> <td>5.2253 mL</td> <td>10.4505 mL</td> </tr> <tr> <td>5 mM</td> <td>0.2090 mL</td> <td>1.0451 mL</td> <td>2.0901 mL</td> </tr> <tr> <td>10 mM</td> <td>0.1045 mL</td> <td>0.5225 mL</td> <td>1.0451 mL</td> </tr> </tbody> </table>	Solvent Concentration	Mass			1 mg	5 mg	10 mg	<b>Preparing Stock Solutions</b>				1 mM	1.0451 mL	5.2253 mL	10.4505 mL	5 mM	0.2090 mL	1.0451 mL	2.0901 mL	10 mM	0.1045 mL	0.5225 mL	1.0451 mL
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	Please refer to the solubility information to select the appropriate solvent.																							
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (2.61 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (2.61 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (2.61 mM); Clear solution</li> </ol>																							

### BIOLOGICAL ACTIVITY

<b>Description</b>	Vanicoside B is a phenylpropanoyl sucrose derivative, can be isolated from the herb <i>Persicaria dissitiflora</i> . Vanicoside B targets cyclin-dependent kinase 8 (CDK8) and exhibits anti-tumor activity. The potential mechanism is Vanicoside B blocks CDK8-mediated signaling pathways and decreases the expression of epithelial-mesenchymal transition proteins, so that it leads to cell cycle arrest and apoptosis <sup>[1][2]</sup> .	
<b>IC<sub>50</sub> &amp; Target</b>	CDK3	STAT3
<b>In Vitro</b>	Vanicoside B (2.5-20 μM; 72 h) shows antiproliferative activity against a panel of cancer cell lines in triple-negative breast cancer (TNBC) MDA-MB-231 cells and HCC38 cells <sup>[1]</sup> .	

Vanicoside B (2.5-20  $\mu\text{M}$ ; 72 h, 14 d, and 72 h, respectively) inhibits cell viability, colony formation, and disturbs cell cycle distribution in TNBC cells<sup>[1]</sup>.

Vanicoside B (2.5-10  $\mu\text{M}$ ; 48 h) decreased p-STAT1, p-STAT3, and p-S6 protein level, and induces apoptosis by regulating the Skp2-p27 axis in TNBC cells<sup>[1]</sup>.

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

#### Western Blot Analysis<sup>[1]</sup>

Cell Line:	MDA-MB-231 cells and HCC38 cells
Concentration:	0, 2.5, 5, 10 $\mu\text{M}$
Incubation Time:	48 hours
Result:	Increased cleaved PARP, and p27 protein expressions, but decreased Skp2 protein level. Suppressed CDK8 target genes and the expression of EMT-associated proteins. Suppressed the expression of the cell proliferation marker Ki-67 in tumor tissues, also significantly suppressed the expressions of p-STAT1 (S727) and AXL.

#### Cell Cycle Analysis<sup>[1]</sup>

Cell Line:	MDA-MB-231 cells and HCC38 cells
Concentration:	0, 2.5, 5, 10 $\mu\text{M}$
Incubation Time:	72 hours
Result:	Inhibited cell cycle at sub-G1 phase.

#### In Vivo

Vanicoside B (5 mg/kg and 20 mg/kg; i.p.; 3 times per week for 4 weeks) inhibits tumor growth in xenografted mouse models with MDAMB-231 cells<sup>[1]</sup>.

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

Animal Model:	MDA-MB-231 cell-implanted xenograft mouse model <sup>[1]</sup>
Dosage:	5 mg/kg, 20 mg/kg
Administration:	Intraperitoneal injection; 3 times per week over 4 weeks
Result:	Significantly reduced tumor volumes at 5 mg/kg and 20 mg/kg by 53.85% and 65.72%, respectively.

## REFERENCES

[1]. Kim D, et al. Antitumor Activity of Vanicoside B Isolated from *Persicaria dissitiflora* by Targeting CDK8 in Triple-Negative Breast Cancer Cells. *J Nat Prod*. 2019 Nov 22;82(11):3140-3149.

[2]. Takasaki M, et al. Cancer chemopreventive activity of phenylpropanoid esters of sucrose, vanicoside B and lapathoside A, from *Polygonum lapathifolium*. *Cancer Lett*. 2001 Nov 28;173(2):133-8.

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

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