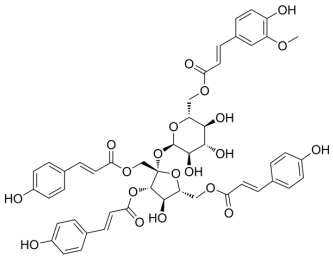
Vanicoside B

Cat. No.:	HY-N9561
CAS No.:	155179-21-8
Molecular Formula:	$C_{49}H_{48}O_{20}$
Molecular Weight:	956.89
Target:	CDK; STAT
Pathway:	Cell Cycle/DNA Damage; JAK/STAT Signaling; Stem Cell/Wnt
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Vanicoside B is a phenylpropanoyl sucrose derivative, can be isolated from the herb Persicaria dissitiflora. 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[1][2].

IC_{50} & Target	CDK3	STAT3

In Vitro

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[1].

Vanicoside B (2.5-20 μM; 72 h, 14 d, and 72 h, respectively) inhibits cell viability, colony formation, and disturbs cell cycle distribution in TNBC cells[1].

Vanicoside B (2.5-10 μM; 48 h) decreased p-STAT1, p-STAT3, and p-S6 protein level, and induces apoptosis by regulating the Skp2-p27 axis in TNBC cells[1].

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

Western Blot Analysis[1]

Cell Line:	MDA-MB-231 cells and HCC38 cells
Concentration:	0, 2.5, 5, 10 μM
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[1]

Cell Line:	MDA-MB-231 cells and HCC38 cells
Concentration:	0, 2.5, 5, 10 μM
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[1].

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[1]
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.

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