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Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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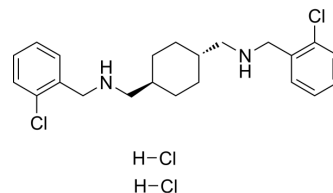
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AY 9944

Cat. No.:	HY-107420
CAS No.:	366-93-8
Molecular Formula:	C ₂₂ H ₃₀ Cl ₄ N ₂
Molecular Weight:	464.3
Target:	Others
Pathway:	Others
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5 mg/mL (10.77 mM; Need ultrasonic)
H₂O : 5 mg/mL (10.77 mM; Need ultrasonic)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.1538 mL	10.7689 mL	21.5378 mL
	5 mM		0.4308 mL	2.1538 mL	4.3076 mL
	10 mM		0.2154 mL	1.0769 mL	2.1538 mL

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

BIOLOGICAL ACTIVITY

Description

AY 9944 is a specific cholesterol biosynthesis inhibitor. AY 9944 inhibits the 7-dehydro cholesterol Δ^7 -reductase (DHCR7) enzyme with an IC₅₀ of 13 nM. AY 9944 causes hypocholesterolemia and accumulation of 7DHC. At high doses, AY 9944 inhibits also in cultured embryos sterol Δ^7 - Δ^8 isomerase, which causes the accumulation of cholest-8-en-3 β -ol^{[1][2][3]}.

IC₅₀ & Target

IC₅₀: 13 nM (DHCR7)¹

In Vitro

AY 9944 (1 μ g/mL; 15 h) affects types of free sterol in keratinocytes^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Cell Viability Assay^[2]

Cell Line:	Human foreskin keratinocytes
Concentration:	1 μ g/mL
Incubation Time:	15 hours

Result:	Inhibited the synthesis of cholesterol and desmosterol, but increased 7-dehydrocholesterol and zymosterol synthesis.
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In Vivo

AY 9944 (7.5 mg/kg; i.h. every 6 days once from postnatal day 2 to postnatal day 20) reduces brain cholesterol until 400 days after stop treatment^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Long-Evans hooded rats ^[3] .
Dosage:	7.5 mg/kg
Administration:	Subcutaneous injection; 7.5 mg/kg every 6 days once; from postnatal day 2 to postnatal day 20
Result:	Reduced brain cholesterol and increased 7-dehydrocholesterol in all brain regions of rats till the treatment stopped for 400 days and showed a more severe effect on the change of sterols in plasma and liver of female rats.

CUSTOMER VALIDATION

- Cancer Lett. 2024 Jan 9;216609.
- Antiviral Res. 2022 Dec 15;209:105497.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Nemanic MK, et al. In vitro synthesis of vitamin D-3 by cultured human keratinocytes and fibroblasts: action spectrum and effect of AY-9944. Biochim Biophys Acta. 1985 Sep 6;841(3):267-77.
- [2]. Cortez MA, et al. Brain sterols in the AY-9944 rat model of atypical absence seizures. Epilepsia. 2002 Jan;43(1):3-8.
- [3]. Moebius FF, et al. Molecular cloning and expression of the human delta7-sterol reductase. Proc Natl Acad Sci U S A. 1998 Feb 17;95(4):1899-902.

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

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