Lavendustin A

Cat. No.: HY-18963

CAS No.: 125697-92-9

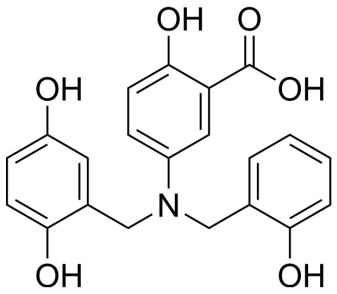
Molecular Formula: $C_{21}H_{19}NO_6$

Molecular Weight: 381.38

Target: EGFR

Pathway: JAK/STAT Signaling; Protein Tyrosine Kinase/RTK

Storage: 4°C, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (65.55 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6221 mL	13.1103 mL	26.2206 mL
	5 mM	0.5244 mL	2.6221 mL	5.2441 mL
	10 mM	0.2622 mL	1.3110 mL	2.6221 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: ≥ 2.08 mg/mL (5.45 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.45 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lavendustin A (RG-14355) is a potent, selective and ATP-competitive inhibitor of epidermal growth factor receptor (EGFR) tyrosine kinase, with an IC_{50} of 11 nM. Lavendustin A does not inhibit protein kinase A or C. Lavendustin A can suppress VEGF-induced angiogenesis[1][2].

IC_{50} & Target

IC50: 11 nM (EGFR-associated tyrosine kinase)[1]

In Vitro

Lavendustin A (5-50μM) dose-dependently inhibits progesterone production in cultures of ovarian dispersates[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Lavendustin A (10 μg) reduces the 133Xe clearance of VEGF165-treated (250 ng) sponges and the total fibrovascular growth area[2].

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

REFERENCES

[1]. Onoda T, et, al. Isolation of a novel tyrosine kinase inhibitor, lavendustin A, from Streptomyces griseolavendus. J Nat Prod. 1989 Nov-Dec;52(6):1252-7.

[2]. Hu DE, et, al. Suppression of VEGF-induced angiogenesis by the protein tyrosine kinase inhibitor, lavendustin A. Br J Pharmacol. 1995 Jan;114(2):262-8.

[3]. Whitehead SA, et, al. Protein tyrosine kinase activity of lavendustin A and the phytoestrogen genistein on progesterone synthesis in cultured rat ovarian cells. Fertil Steril. 2000 Mar;73(3):613-9.

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