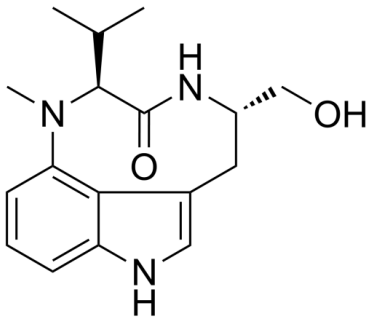
Data Sheet

Product Name:	(-)-Indolactam V
Cat. No.:	CS-5420
CAS No.:	90365-57-4
Molecular Formula:	$C_{17}H_{23}N_3O_2$
Molecular Weight:	301.38
Target:	PKC
Pathway:	Epigenetics; TGF-beta/Smad
Solubility:	DMSO : 50 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

(-)-Indolactam V is a **PKC** activator, with **K_i**s of 3.36 nM, 1.03 μM for η-CRD2 (PKCη surrogate peptide), γ-CRD2 (PKCγ surrogate peptide), and **K_d**s of 5.5 nM (η-C1B), 7.7 nM (ε-C1B), 8.3 nM (δ-C1B), 18.9 nM (β-C1A-long), 20.8 nM (α-C1A-long), 137 nM (β-C1B), 138 nM (γ-C1A), 213 nM (γ-C1B), and has antitumor activity. IC50 & Target: Ki: 3.36 nM (η-CRD2 (PKCη surrogate peptide)), 1.03 μM (γ-CRD2 (PKCγ surrogate peptide))[1]

Kd: 5.5 nM (η-C1B), 7.7 nM (ε-C1B), 8.3 nM (δ-C1B), 18.9 nM (β-C1A-long), 20.8 nM (α-C1A-long), 137 nM (β-C1B), 138 nM (γ-C1A), 213 nM (γ-C1B)[2] ***In Vitro:*** (-)-Indolactam V is a PKC activator, with K_is of 3.36 nM, 1.03 μM for η-CRD2 (PKCη surrogate peptide), γ-CRD2 (PKCγ surrogate peptide), and has antitumor activity[1]. (-)-Indolactam V shows K_ds of 5.5 nM (η-C1B), 7.7 nM (ε-C1B), 8.3 nM (δ-C1B), 18.9 nM (β-C1A-long), 20.8 nM (α-C1A-long), 137 nM (β-C1B), 138 nM (γ-C1A), 213 nM (γ-C1B), respectively [2]. (-)-Indolactam V (20 nM-5 μM) dose-dependently affects multiple hESC lines, such as HUES 2, 4 and 8. (-)-Indolactam V also increases the mRNA levels of Pdx1, HNF6, PTF1A, SOX9, HB9 and PROX1. In addition, (-)-Indolactam V (300 nM) functions in both mouse and human cells and confirms that some signals for pancreatic development[3].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [3]For induced differentiation to endocrine or exocrine cells, the **(-)-Indolactam V (300 nM)**-treated populations are cultured in DMEM/F12 supplemented with 1 N_2, 2 mg/mL albumin fraction V and 10 ng/mL bovine FGF for the first 4 d. 10 mM nicotinamide is then added and maintained for an additional 8 d, changing the medium every 3 d[3].

References:

[1]. Nakagawa Y, et al. Synthesis and biological activities of indolactone-V, the lactone analogue of the tumor promoter (-)-indolactam-V. Biosci Biotechnol Biochem. 1997 Aug;61(8):1415-7.

[2]. Masuda A, et al. Binding selectivity of conformationally restricted analogues of (-)-indolactam-V to the C1 domains of protein kinase C isozymes. Biosci Biotechnol Biochem. 2002 Jul;66(7):1615-7.

[3]. Chen S, et al. A small molecule that directs differentiation of human ESCs into the pancreatic lineage. Nat Chem Biol. 2009 Apr;5(4):258-65.

CAIndexNames:

3H-Pyrrolo[4,3,2-gh]-1,4-benzodiazonin-3-one, 1,2,4,5,6,8-hexahydro-5-(hydroxymethyl)-1-methyl-2-(1-methylethyl)-, (2S,5S)-

SMILES:

CC(C)[C@@H](C1=O)N(C)C2=C3C(NC=C3C[C@H](N1)CO)=CC=C2

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

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