

# Small Molecules

## (-)-Indolactam V

Protein kinase C (PKC) activator

Catalog # 72314

1 mg



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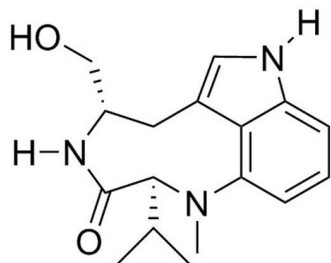
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## Product Description

(-)-Indolactam V is an indole alkaloid compound that activates protein kinase C (PKC). It binds to the  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ,  $\epsilon$ , and  $\eta$  isozymes of PKC with  $K_i$  values of 11, 6, 19, 8, 22, and 16 nM, respectively (Kazanietz et al.; Masuda et al.).

Molecular Name:	(-)-Indolactam V
Alternative Names:	Not applicable
CAS Number:	90365-57-4
Chemical Formula:	$C_{17}H_{23}N_3O_2$
Molecular Weight:	301.4 g/mol
Purity:	$\geq 95\%$
Chemical Name:	(2S,5S)-1,2,4,5,6,8-hexahydro-5-(hydroxymethyl)-1-methyl-2-(1-methylethyl)-3H-pyrrolo[4,3,2-gh]-1,4-benzodiazonin-3-one

Structure:



## Properties

Physical Appearance:	White to off-white solid
Storage:	Product stable at $-20^\circ\text{C}$ as supplied. As a precaution, STEMCELL recommends storing all small molecules away from direct light. Stable as supplied for 12 months from date of receipt.
Solubility:	<ul style="list-style-type: none"><li>· DMSO <math>\leq 30</math> mM</li><li>· Absolute ethanol <math>\leq 15</math> mM</li></ul> For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 332 $\mu\text{L}$ of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported; however, as a general guide we recommend storage in DMSO at  $-20^\circ\text{C}$ . Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

## Published Applications

### DIFFERENTIATION

· Promotes differentiation to human and mouse pancreatic precursors from pluripotent stem cell-derived definitive endoderm (Borowiak et al.; Chen et al.; Thatava et al.).

## References

- Borowiak M et al. (2009) Small molecules efficiently direct endodermal differentiation of mouse and human embryonic stem cells. *Cell Stem Cell* 4(4): 348–58.
- Chen S et al. (2009) A small molecule that directs differentiation of human ESCs into the pancreatic lineage. *Nat Chem Biol* 5(4): 258–65.
- Kazanietz MG et al. (1993) Characterization of ligand and substrate specificity for the calcium-dependent and calcium-independent protein kinase C isozymes. *Mol Pharmacol* 44(2): 298–307.
- Masuda A et al. (2002) Binding selectivity of conformationally restricted analogues of (-)-indolactam-V to the C1 domains of protein kinase C isozymes. *Biosci Biotechnol Biochem* 66(7): 1615–7.
- Thatava T et al. (2011) Indolactam V/GLP-1-mediated differentiation of human iPS cells into glucose-responsive insulin-secreting progeny. *Gene Ther* 18(3): 283–93.

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