Small Molecules

(-)-Indolactam V

Protein kinase C (PKC) activator

Catalog # 72312 300 µg
72314 1 mg

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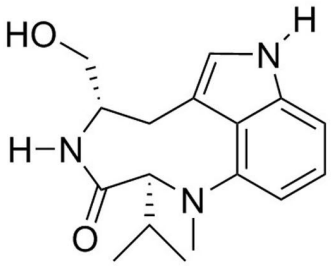
Product Description

(-)-Indolactam V is an indole alkaloid compound that activates protein kinase C (PKC). It binds to the α, β, γ, δ, ε, and η isozymes of PKC with Ki 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:	≥ 97%
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 2 - 8°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 30 mM · Absolute ethanol ≤ 15 mM For example, to prepare a 5 mM stock solution in DMSO, resuspend 300 µg in 199 µL of fresh 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°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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