

Small Molecules

(-)-Blebbistatin

Non-muscle myosin II (NM II) ATPase inhibitor

Catalog # 72402
72404

5 mg
25 mg



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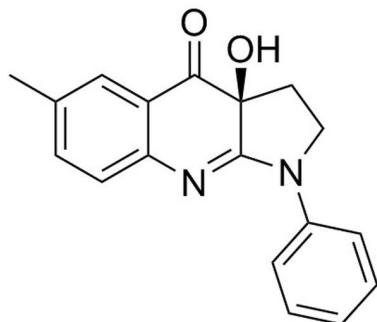
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Product Description

(-)-Blebbistatin is a selective cell-permeable inhibitor of non-muscle myosin II ATPases (Kovács et al.; Straight et al.) and is named after its ability to inhibit membrane blebbing. It rapidly and reversibly inhibits Mg-ATPase activity and in vitro motility of non-muscle myosin IIA and IIB for several species ($IC_{50} = 0.5 - 5.0 \mu M$), while poorly inhibiting smooth muscle myosin ($IC_{50} = 80 \mu M$; Limouze et al.). Blebbistatin is inactivated by ultraviolet light (Kolega), which may be particularly important in fluorescent cell imaging applications.

Molecular Name:	(-)-Blebbistatin
Alternative Names:	Not applicable
CAS Number:	856925-71-8
Chemical Formula:	$C_{18}H_{16}N_2O_2$
Molecular Weight:	292.3 g/mol
Purity:	$\geq 98\%$
Chemical Name:	(3aS)-3a-hydroxy-6-methyl-1-phenyl-2,3-dihydropyrrolo[2,3-b]quinolin-4-one
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at $-20^{\circ}C$ as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 40 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 342 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 $-20^{\circ}C$. 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

MAINTENANCE AND SELF-RENEWAL

- Increases human pluripotent stem cell (hPSC) survival and cloning efficiency after dissociation to single cells, downstream of ROCK inhibition (Chen et al.; Ohgushi et al.; Walker et al.; Xu et al.).
- Enables hPSCs to be cultured on microcarriers without surface coating (Chen et al.).
- Inhibits differentiation of human mesenchymal stem cells (McBeath et al.; Engler et al.).

References

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Related Small Molecules

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