

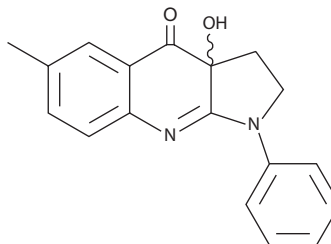
Product Information



(±)-Blebbistatin

Catalog No. 13186

CAS Registry No.: 674289-55-5
Formal Name: 1,2,3,3a-tetrahydro-3a-hydroxy-6-methyl-1-phenyl-4H-pyrrolo[2,3-b]quinolin-4-one
MF: C₁₈H₁₆N₂O₂
FW: 292.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that (±)-blebbistatin be stored as supplied at -20°C. It should be stable for at least two years.

(±)-Blebbistatin is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-blebbistatin in an organic solvent purged with an inert gas. (±)-Blebbistatin is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of (±)-blebbistatin in these solvents is approximately 10 mg/ml.

(±)-Blebbistatin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (±)-blebbistatin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (±)-Blebbistatin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

(±)-Blebbistatin is a selective cell-permeable inhibitor of non-muscle myosin II ATPases.^{1,2} It rapidly and reversibly inhibits Mg-ATPase activity and *in vitro* motility of non-muscle myosin IIA and IIB for several species (IC₅₀ = 0.5-5.0 μM), while poorly inhibiting smooth muscle myosin (IC₅₀ = 80 μM).³ Through these effects, blebbistatin blocks apoptosis-related bleb formation, directed cell migration and cytokinesis in vertebrate cells. Blebbistatin is inactivated by UV light,⁴ which may be particularly important in fluorescent cell imaging applications. Purified enantiomers of blebbistatin are also available from Cayman ((-)-Blebbistatin - Catalog No. 13013; (+)-Blebbistatin - Catalog No. 13165).

References

1. Straight, A.F., Cheung, A., Limouze, J., *et al.* Dissecting temporal and spatial control of cytokinesis with a myosin II inhibitor. *Science* **299**, 1743-1747 (2003).
2. Kovács, M., Tóth, J., Hetényi, C., *et al.* Mechanism of blebbistatin inhibition of myosin II. *J. Biol. Chem.* **279**(34), 35557-35563 (2004).
3. Limouze, J., Straight, A.F., Mitchison, T., *et al.* Specificity of blebbistatin, an inhibitor of myosin II. *Journal of Muscle Research and Cell Motility* **25**, 337-341 (2004).
4. Kolega, J. Phototoxicity and photoinactivation of blebbistatin in UV and visible light. *Biochem. Biophys. Res. Commun.* **320**, 1020-1025 (2004).

Related Products

(-)-Blebbistatin - Cat. No. 13013 • (+)-Blebbistatin - Cat. No. 13165

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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