

Product Data Sheet

Product Name: (S)-nitro-Blebbistatin

Cat. No.: GC41739

Chemical Properties

Cas. No. 856925-75-2

SMILES O=C1[C@@]2(O)C(N(C3=CC=CC=C3)CC2)=NC4=C1C=CC([N+])([O-])=O=C4

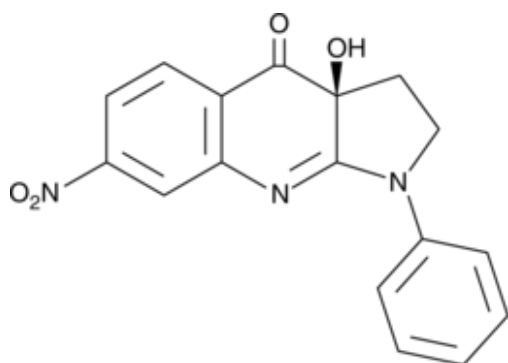
Formula $C_{17}H_{13}N_3O_4$ M.Wt 323.3

Solubility DMF: 16 mg/ml, DMSO: 16 mg/ml, DMSO:PBS(pH7.2) (1:1): 0.5 mg/ml
Storage Store at -20°C, protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

(S)-nitro-Blebbistatin is a more stable form of (-)-blebbistatin, which is a selective cell-permeable inhibitor of non-muscle myosin II ATPases. (-)-Blebbistatin rapidly and reversibly inhibits Mg-ATPase activity and in vitro motility of non-muscle myosin IIA and IIB for several species (IC₅₀s = 0.5-5 μM), while poorly inhibiting smooth muscle myosin (IC₅₀ = 80 μM). Through these effects, it blocks apoptosis-related bleb formation, directed cell migration, and cytokinesis in vertebrate cells. However, prolonged exposure to blue light (450-490 nm) results in degradation of blebbistatin to an inactive product via cytotoxic intermediates, which may be problematic for its use in fluorescent live cell imaging applications. The addition of a nitro group stabilizes the molecule to circumvent its

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

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degradation by prolonged blue light exposure. (S)-nitro-Blebbistatin has the same stereochemistry as the active (-)-blebbistatin enantiomer.

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