Small Molecules

UM729

Pyrimido-indole derivative that enhances HSC self-renewal in vitro

Catalog # 72332

250 µg of active compound

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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
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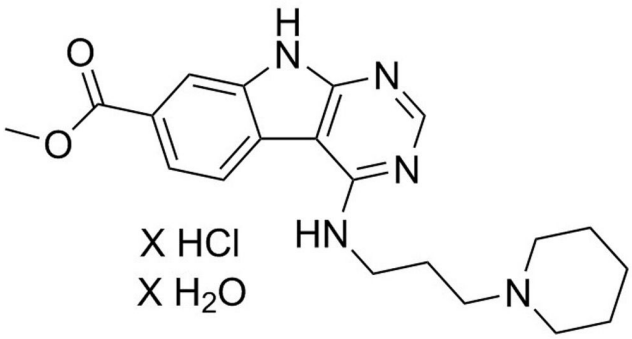
Product Description

UM729 is a pyrimido-[4,5-b]-indole derivative which enhances the self-renewal of human hematopoietic stem cells (HSCs) in vitro (Fares et al.). UM729 does not inhibit the aryl hydrocarbon receptor (AhR) pathway, but has been shown to collaborate with AhR antagonists in preventing differentiation of acute myeloid leukemia (AML) cells in culture (Pabst et al.).

Molecular Name: UM729
Alternative Names: UM-729
CAS Number: Not applicable
Chemical Formula: $C_{20}H_{25}N_5O_2 \cdot X\ HCl\ [X\ H2O]$
Molecular Weight: 367.4 g/mol (free base)
Purity: ≥ 95%
Chemical Name: Methyl 4-((3-(piperidin-1-yl)propyl)amino)-9H-pyrimido[4,5-b] indole-7-carboxylate
Structure:



Properties

Physical Appearance: Light yellow or green to off-white solid

Storage: Product stable at room temperature (15 - 25°C) as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.

Solubility:
· DMSO ≤ 20 mM
For example, to prepare a 5 mM stock solution in DMSO, dissolve 1 mg in 544 µL of fresh DMSO or dissolve 250 µg in 136 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

MAINTENANCE AND SELF-RENEWAL
· Enhances human hematopoietic stem cell self-renewal in vitro (Fares et al.).
CANCER RESEARCH
· Collaborates with StemRegenin 1 (SR1; Catalog #72342) in preventing differentiation of AML cells in culture (Pabst et al.).

References

Fares I et al. (2014) Pyrimidoindole derivatives are agonists of human hematopoietic stem cell self-renewal. Science 345(6203): 1509–12.
Pabst C et al. (2014) Identification of small molecules that support human leukemia stem cell activity ex vivo. Nat Methods 11(4): 436–42.

Related Small Molecules

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This product is potentially hazardous. Please refer to the Safety Data Sheet (SDS).