Catalog # 72782  10 mg

Kenpaullone is an ATP-competitive inhibitor of several cyclin-dependent kinases (CDKs) as well as glycogen synthase kinase 3β (GSK-3β; Bain et al.; Leclerc et al.; Zaharevitz et al.). It inhibits GSK-3β, Cdk1/cyclin B, Cdk2/cyclin A, Cdk5/p25, and lymphocyte kinase with IC₅₀ values of 0.23, 0.4, 0.68, 0.85, and 0.47 µM, respectively (Bain et al.; Zaharevitz et al.).

Structure:

Product Description

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Molecular Name: Kenpaullone
Alternative Names: 9-Bromopaullone; NSC 664704
CAS Number: 142273-20-9
Chemical Formula: C₁₆H₁₁BrN₂O
Molecular Weight: 327.2 g/mol
Purity: ≥ 98%
Chemical Name: 9-bromo-7,12-dihydro-indolo[3,2-d][1]benzazepin-6(5H)-one

Properties

Physical Appearance: A crystalline solid
Storage:
- Product stable at -20°C as supplied. Protect from prolonged exposure to light.
- Stable as supplied for 12 months from date of receipt.
Solubility:
- DMSO ≤ 30 mM
- For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 306 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

REPROGRAMMING
- Replaces Klf4 in the generation of induced pluripotent stem (iPS) cells from mouse embryonic fibroblasts transduced with Oct4, Sox2, and c-Myc (Lyssiotis et al.).

DIFFERENTIATION
- Enhances neuronal differentiation in rat and human neural precursor cell cultures (Castelo-Branco et al.; Lange et al.).
- Promotes survival of motor neurons derived from mouse embryonic stem cells and from amyotrophic lateral sclerosis (ALS) patient iPS cells (Yang et al.).

CANCER RESEARCH
- Inhibits KLF4 expression and self-renewal in breast cancer stem cells in vitro (Yu et al.).

References


Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

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