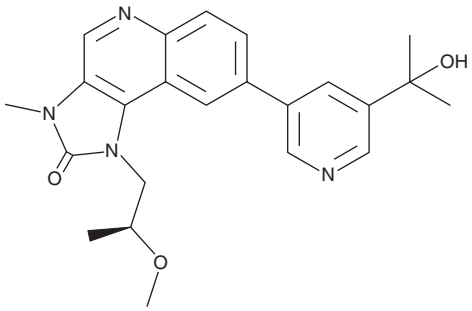
# PRODUCT INFORMATION

## LY3023414

*Item No. 44438*

**CAS Registry No.:** 1386874-06-1
**Formal Name:** 1,3-dihydro-8-[5-(1-hydroxy-1-methylethyl)-3-pyridinyl]-1-[(2S)-2-methoxypropyl]-3-methyl-2H-imidazo[4,5-c]quinolin-2-one
**Synonym:** Samotolisib
**MF:** $C_{23}H_{26}N_4O_3$
**FW:** 406.5
**Purity:** ≥98%
**Supplied as:** A solid
**Storage:** -20°C
**Stability:** ≥4 years




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

LY3023414 is supplied as a solid. A stock solution may be made by dissolving the LY3023414 in the solvent of choice, which should be purged with an inert gas. LY3023414 is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

### Description

LY3023414 is a dual inhibitor of PI3K and mTOR.[1] It selectively inhibits PI3Kα, PI3Kβ, and mTOR ($IC_{50}$ = 83, 600, and 16 nM, respectively) over 283 other kinases at 20 µM but does inhibit DNA-dependent protein kinase (DNA-PK), ataxia-telangiectasia mutated kinase (ATM), the PI3K-related kinase SMG1, and ataxia-telangiectasia and Rad3-related protein/kinase (ATR; $IC_{50}$s = 9.3, 160, 180, and 390 nM, respectively). LY3023414 decreases levels of phosphorylated Akt and 4E-BP1, indicating inhibition of PI3K and mTOR, respectively, in U87MG glioblastoma cells ($IC_{50}$s = 106 and 187 nM, respectively). It also reduces the proliferation of primary mouse bone marrow-derived macrophages (BMDMs) when used at a concentration of 75 µM and decreases β-glycerophosphate-, ascorbic acid-, and dexamethasone-induced osteoclast differentiation in MC3T3-E1 murine osteoblasts into osteoclasts at 160 µM.[2] LY3023414 reduces proliferation in a panel of 31 cancer cell lines ($IC_{50}$s = <0.122-1 µM) and induces cell cycle arrest at the $G_1$ phase in 786-O renal carcinoma, H1975 non-small cell lung cancer (NSCLC), and A2780 ovarian cancer cells.[1] LY3023414 (10 mg/kg twice per day) decreases tumor volume in a 786-O mouse xenograft model.

### References


1. Smith, M.C., Mader, M.M., Cook, J.A., *et al*. Characterization of LY3023414, a novel PI3K/mTOR dual inhibitor eliciting transient target modulation to impede tumor growth. *Mol. Cancer Ther.* **15(10),** 2344-2356 (2016).
2. Chen, X., Chen, W., Aung, Z.M., *et al*. LY3023414 inhibits both osteogenesis and osteoclastogenesis through the PI3K/Akt/GSK3 signalling pathway. *Bone Joint Res.* **10(40**, 237-249 (2021).





**CAYMAN CHEMICAL**
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
**PHONE:** [800] 364-9897
[734] 971-3335
**FAX:** [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM