

# PRODUCT INFORMATION

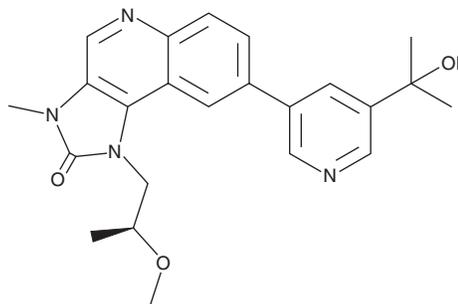


**LY3023414**

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<sub>23</sub>H<sub>26</sub>N<sub>4</sub>O<sub>3</sub>  
**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.<sup>1</sup> It selectively inhibits PI3K $\alpha$ , PI3K $\beta$ , and mTOR (IC<sub>50</sub> = 83, 600, and 16 nM, respectively) over 283 other kinases at 20  $\mu$ M but does not 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<sub>50</sub>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<sub>50</sub>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  $\mu$ M and decreases  $\beta$ -glycerophosphate-, ascorbic acid-, and dexamethasone-induced osteoclast differentiation in MC3T3-E1 murine osteoblasts into osteoclasts at 160  $\mu$ M.<sup>2</sup> LY3023414 reduces proliferation in a panel of 31 cancer cell lines (IC<sub>50</sub>s = <0.122-1  $\mu$ M) and induces cell cycle arrest at the G<sub>1</sub> phase in 786-O renal carcinoma, H1975 non-small cell lung cancer (NSCLC), and A2780 ovarian cancer cells.<sup>1</sup> 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).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

### WARRANTY AND LIMITATION OF REMEDY

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