

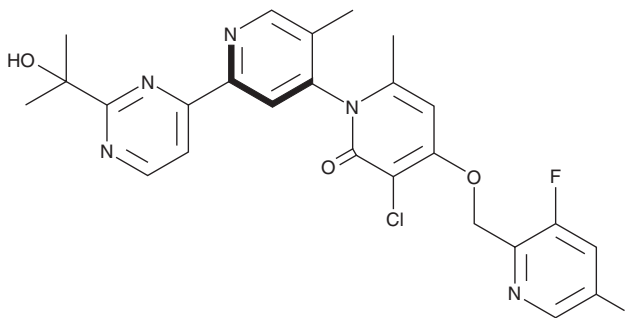
# PRODUCT INFORMATION



## Zunsemetinib

Item No. 41863

**CAS Registry No.:** 1640282-42-3  
**Formal Name:** (2'S)-3-chloro-4-[(3,5-difluoro-2-pyridinyl)methoxy]-2'-[2-(1-hydroxy-1-methylethyl)-4-pyrimidinyl]-5',6-dimethyl-[1(2H),4'-bipyridin]-2-one  
**Synonyms:** ATI-450, CDD-450  
**MF:** C<sub>25</sub>H<sub>22</sub>ClF<sub>2</sub>N<sub>5</sub>O<sub>3</sub>  
**FW:** 513.9  
**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

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

### Description

Zunsemetinib is a p38α MAPK inhibitor biased toward MAPK-activated protein kinase 2 (MK2).<sup>1</sup> It selectively inhibits p38α MAPK-dependent activation of MK2 over p38α MAPK-dependent activation of MK5, also known as p38-regulated/activated protein kinase (PRAK), and p38α MAPK-dependent activation of activating transcription factor 2 (ATF2) by 750- and 700-fold, respectively. It is also greater than 350-fold selective for p38α MAPK over a panel of 193 other kinases at 5 μM. Zunsemetinib (10 μM) reduces LPS-induced increases in the levels of mRNA encoding IL-1β in isolated mouse bone marrow macrophages (BMMs). It reduces body weight loss, neutrophilia, and the number of osteoclasts at trabecular and cortical bone surfaces in a model of conditional neonatal-onset multisystem inflammatory disease (NOMID<sup>c</sup>) using *Nlrp3<sup>fl(D301N)</sup>/+;Cre<sup>ER</sup>* mice. Zunsemetinib enhances decreases in tumor volume and increases in survival in an autochthonous KPC murine pancreatic ductal adenocarcinoma (PDAC) model when used with FIRINOX, which is a combination of the FdUMP prodrug 5-fluorouracil (Item No. 14416), DNA topoisomerase I inhibitor irinotecan (Item No. 14180), and DNA-crosslinking agent oxaliplatin (Item No. 13106).<sup>2</sup>

### References

1. Wang, C., Hockerman, S., Jacobsen, E.J., *et al.* Selective inhibition of the p38α MAPK-MK2 axis inhibits inflammatory cues including inflammasome priming signals. *J. Exp. Med.* **215**(5), 1315-1325 (2018).
2. Grierson, P.M., Dodhiawala, P.B., Cheng, Y., *et al.* The MK2/Hsp27 axis is a major survival mechanism for pancreatic ductal adenocarcinoma under genotoxic stress. *Sci. Transl. Med.* **13**(622), eabb5445 (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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 09/18/2024

#### 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](http://WWW.CAYMANCHEM.COM)