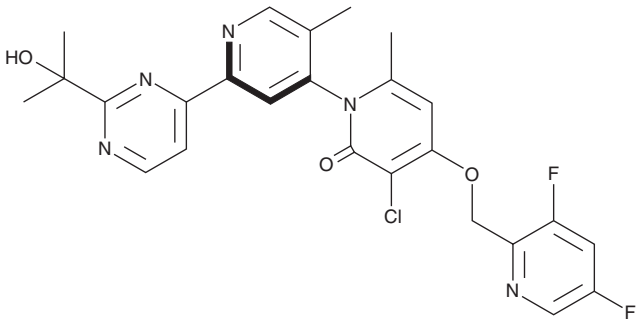
PRODUCT INFORMATION

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:	$C_{25}H_{22}ClF_2N_5O_3$
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).[1] 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^c) using *Nlrp3*$^{fl(D301N)}$*/+;Cre*^{ER} 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).[2]

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).

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