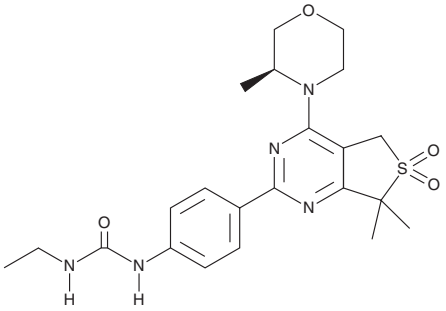
PRODUCT INFORMATION

CZ415

Item No. 27668

CAS Registry No.:	1429639-50-8
Formal Name:	N-[4-[5,7-dihydro-7,7-dimethyl-4-[(3S)-3-methyl-4-morpholinyl]-6,6-dioxidothieno[3,4-d]pyrimidin-2-yl]phenyl]-N'-ethyl-urea
MF:	$C_{22}H_{29}N_5O_4S$
FW:	459.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 303 nm
Supplied as:	A crystalline 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

CZ415 is supplied as a crystalline solid. A stock solution may be made by dissolving the CZ415 in the solvent of choice, which should be purged with an inert gas. CZ415 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of CZ415 in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

CZ415 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CZ415 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. CZ415 has a solubility of approximately 0.1 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

CZ415 is an inhibitor of mammalian target of rapamycin (mTOR; K_d = 6.3 nM).[1] It is 1,000-fold selective for mTOR over a panel of 285 kinases. CZ415 inhibits phosphorylation of S6 ribosomal protein (S6RP) and Akt in HEK293T cells (IC_{50}s = 14.5 and 14.8 nM, respectively). It inhibits IFN-γ secretion in IL-2, anti-CD3, and anti-CD28 antibody-stimulated human whole blood (IC_{50} = 226 nM). CZ415 (10 mg/kg) reduces fore paw joint erythema and swelling in a mouse model of collagen-induced arthritis. It also inhibits intratumor mTOR activity and reduces tumor growth in an OCC-1 oral cavity carcinoma mouse xenograft model when administered at a dose of 20 mg/kg.[2]

References

1. Cansfield, A.D., Ladduwahetty, T., Sunose, M., *et al.* CZ415, a highly selective mTOR inhibitor showing *in vivo* efficacy in a collagen induced arthritis model. *ACS Med. Chem. Lett.* **7(8),** 768-773 (2016).
2. Xie, J., Li, Q., Ding, X., *et al.* Targeting mTOR by CZ415 inhibits head and neck squamous cell carcinoma cells. *Cell Physiol. Biochem.* **46(2),** 676-686 (2018).

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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