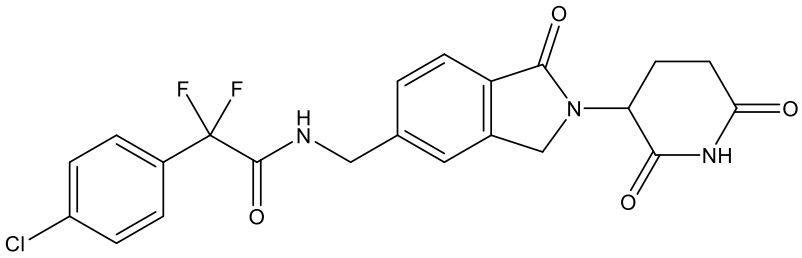
Catalog # 10-3922

CC-90009

CAS# 1860875-51-9

2-(4-Chlorophenyl)-N-[[2-(2,6-dioxopiperidin-3-yl)-1-oxo-3H-isoindol-5-yl]methyl]-2,2-difluoroacetamide; Eragidomide

Lot # FBA9068



CC-90009 is a modulator of the cullin ring ligase 4-cereblon E3 ubiquitin ligase complex that specifically targets GSPT1 (G1 to S phase transition 1; EC_{50} = 9 nM; also known as eRF3a) instead of Ikaros (IKZF1) and Aiolos (IKZF3).[1] It rapidly induced apoptosis and reduced leukemia engraftment and leukemia stem cells across a wide spectrum of acute myeloid leukemia xenograft patient samples including refractory/relapsed cases.[2] The anti-AML activity of CC-90009 was shown to be regulated by multiple signaling pathways including the ILF/ILF3 complex, mTOR, and the integrated stress response. CC-90009 was able to potentiate premature termination codon (PTC; 11% of all genetic lesions in patients with inherited diseases contain this type of mutation) readthrough by aminoglycosides *via* degradation of eukaryotic release factors 1 (eRF1) and 3 (eRF3a/b) in various heritable disease models.[3] It was also able to enhance aminoglycoside PTC readthrough of the mutated retinoblastoma (RB1) gene in MDA-MB-436 breast carcinoma cells and SW1783 astrocytoma cells.[4]

1) Hansen *et al*. (2021), *CC-90009: A Cereblon E3 Ligase Modulating Drug That Promotes Selective Degradation of GSPT1 for the Treatment of Acute Myeloid Leukemia*; J. Med. Chem. **64** 1835
2) Surka *et al*. (2021), *CC-90009, a novel cereblon E3 ligase modulator, targets acute myeloid leukemia blasts and leukemia stem cells*; Blood **137** 661
3) Baradaran *et al*. (2021), *Effect of small molecule eRF3 degraders on premature termination codon readthrough*; Nucleic Acids Res. **49** 3692
4) Palomar-Siles *et al*. (2023), *Pharmacological induction of translational readthrough of nonsense mutations in the retinoblastoma (RB1) gene*; PLoS One **18** e0292468

PHYSICAL DATA

Molecular Weight:	461.85
Molecular Formula:	$C_{22}H_{18}ClF_2N_3O_4$
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (50 mg/ml)
Physical Description:	White solid.
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase.
	Solutions in DMSO may be stored at -20°C for up to 3 months.

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