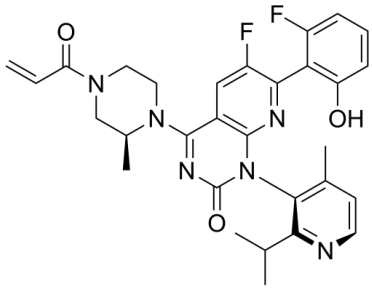
Data Sheet

Product Name:	Sotorasib
Cat. No.:	CS-0081316
CAS No.:	2296729-00-3
Molecular Formula:	$C_{30}H_{30}F_2N_6O_3$
Molecular Weight:	560.59
Target:	Ras
Pathway:	GPCR/G Protein
Solubility:	H2O : 33.33 mg/mL (59.46 mM; ultrasonic and adjust pH to 11 with NaOH); DMSO : 50 mg/mL (89.19 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Sotorasib (AMG-510) is a first-in-class, orally bioavailable, and selective **KRAS G12C** covalent inhibitor. Sotorasib irreversibly inhibits KRAS G12C by locking it in an inactive GDP-bound state. Sotorasib is the first KRAS G12C inhibitor in clinical development and leads to the regression of KRAS G12C tumors[1][2]. IC50 & Target:KRAS G12C[1] **In Vitro:**In cellular assays, Sotorasib (AMG-510) covalently modifies KRAS G12C and inhibits KRAS G12C signaling as measured by phosphorylation of ERK1/2 (p-ERK) in all KRAS p.G12C-mutant cell lines[2].

Sotorasib (AMG-510; 1-10 μM; 72 hours) also potently impairs cellular viability in both NCI-H358 and MIA PaCa-2 with IC_{50}≈0.006 μM and 0.009 μM, respectively. Non-KRASG12C lines are insensitive to Sotorasib (IC_{50}>7.5 μM)[3]. **In Vivo:**In preclinical tumor models, Sotorasib (AMG-510) rapidly and irreversibly binds to KRAS G12C, providing durable suppression of the mitogen-activated protein kinase (MAPK) signaling pathway. Sotorasib (orally; once daily) is capable of inducing tumor regression in mouse models of KRAS G12C cancer[3].

References:

[1]. Marwan Fakih, et al, Phase 1 study evaluating the safety, tolerability, pharmacokinetics (PK), and efficacy of AMG 510, a novel small molecule KRASG12Cinhibitor, in advanced solid tumors. Journal of Clinical Oncology.

[2]. Karen Rex, et al. Abstract 3090: In vivo characterization of AMG 510 - a potent and selective KRASG12Ccovalent small molecule inhibitor in preclinical KRASG12Ccancer models. Experimental and Molecular Therapeutics.

[3]. Brian A. Lanman, et al.Abstract 4455: Discovery of AMG 510, a first-in-human covalent inhibitor of KRASG12C for the treatment of solid tumors. Cancer Chemistry.

[4]. Canon J, et al. The clinical KRAS(G12C) inhibitor AMG 510 drives anti-tumour immunity. Nature. 2019 Nov;575(7781):217-223.

CAIndexNames:

Pyrido[2,3-d]pyrimidin-2(1H)-one, 6-fluoro-7-(2-fluoro-6-hydroxyphenyl)-1-[4-methyl-2-(1-methylethyl)-3-pyridinyl]-4-[(2S)-2-methyl-4-(1-oxo-2-propen-1-yl)-1-piperazinyl]-, (1R)-

SMILES:

O=C(C=C)N1C[C@H](C)N(C2=NC(N(C3=C(C)C=CN=C3C(C)C)C4=C2C=C(F)C(C5=C(O)C=CC=C5F)=N4)=O)CC1

Caution: Product has not been fully validated for medical applications. For research use only.

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