AMG 487

Cat. No.: HY-15319

CAS No.: 473719-41-4

Molecular Formula: $C_{32}H_{28}F_3N_5O_4$

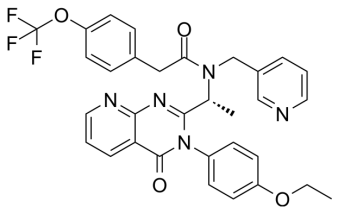
Molecular Weight: 603.59

Target: CXCR

Pathway: GPCR/G Protein; Immunology/Inflammation

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 41 mg/mL (67.93 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6568 mL	8.2838 mL	16.5675 mL
	5 mM	0.3314 mL	1.6568 mL	3.3135 mL
	10 mM	0.1657 mL	0.8284 mL	1.6568 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 20% HP-β-CD in saline
   Solubility: 5 mg/mL (8.28 mM); Suspened solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.14 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (4.14 mM); Suspended solution; Need ultrasonic
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.14 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AMG 487 is an orally active and selective antagonist of CXC chemokine receptor 3 (CXCR3) which inhibits the binding of CXCL10 and CXCL11 to CXCR3 with IC_{50}s of 8.0 and 8.2 nM, respectively[1].

IC_{50} & Target		
	^{125}I-IP10-CXCR3	^{125}I-ITAC-CXCR3

	8 nM (IC_{50})	8.2 nM (IC_{50})
In Vitro	AMG 487 inhibits CXCR3-mediated cell migration by the three CXCR3 chemokines (IP-10 IC_{50}=8 nM, ITAC IC_{50}=15 nM, and MIG IC_{50}=36 nM). Furthermore, AMG 487 inhibits calcium mobilization in response to ITAC (IC_{50}=5 nM)[1]. AMG487 (1 μM) develops into fewer lung metastases, and the lungs are significantly smaller than vehicle-treated lungs[2]. AMG487 abrogates proliferation/survival of C26 tumour cells[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	AMG 487 (0.03-10 mg/kg, s.c.) exhibits significant reduction in cellular infiltration into the lungs in a dose dependent manner [1]. AMG487 (5 mg/kg, s.c., twice daily) develops fewer metastases than that in vehicle-treated mice[2]. AMG487 (5 mg/kg, s.c.)-treated mice exhibits fewer pulmonary nodules than the control mice in both the models. AMG487 reduces the tumour volume[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

PROTOCOL

Cell Assay [3]	Colon cancer cells are seeded at a density of 10^4 cells cm^2 and incubated either in serum-enriched medium or in base medium (containing 0.1% bovine serum albumin, BSA) supplemented or not with various concentrations of rCXCL9, rCXCL10 and rCXCL11 for the indicated periods of time before being either trypsin-detached, collected and enumerated or re-fed with fresh medium for 3 days, harvested and enumerated. The morphology of the CRC cells is observed through an inverted optical microscope at ×20 magnification, and photographs are taken at day 7. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [2]	Local tumor growth and spontaneous metastasis are evaluated by injecting $3×10^5$ viable tumor cells s.c. proximal to the right abdominal mammary gland of syngeneic female mice. Tumor diameters are measured by caliper twice weekly, and mice are euthanized on an individual basis when the s.c. tumor measured 18 mm in diameter or earlier if the mouse seemed moribund. The lungs are removed and weighed, and surface tumor colonies are quantified in a blinded fashion under a dissecting microscope. Experimental metastasis is evaluated by injecting $9×10^4$ viable tumor cells i.v. into the lateral tail vein of syngeneic female mice. All mice are euthanized on day 21 posttransplantation or earlier if the mice seemed moribund. The lungs are removed and weighed, and surface tumor colonies are quantified in a blinded fashion under a dissecting microscope. A 50% hydroxypropyl-β-cyclodextrin solution is prepared; at 20%, this solution serves as the vehicle. AMG487 is added to the 50% solution, and it is incubated in a sonicating water bath for 2 hours with occasional vortexing. Distilled water is added to give the appropriate final concentration of AMG487 in 20% of hydroxypropyl-β-cyclodextrin. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Am J Respir Crit Care Med. 2022 Oct 15;206(8):981-998.
- Cancer Lett. 506 (2021) 95-106.
- Cell Rep. 2021 Aug 24;36(8):109613.
- Oncogene. 2022 Mar;41(13):1866-1881.
- Cells. 2023, 12(1), 182.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Johnson M, et al. Discovery and optimization of a series of quinazolinone-derived antagonists of CXCR3. Bioorg Med Chem Lett. 2007 Jun 15;17(12):3339-43.

[2]. Walser TC, et al. Antagonism of CXCR3 inhibits lung metastasis in a murine model of metastatic breast cancer. Cancer Res. 2006 Aug 1;66(15):7701-7.

[3]. Cambien B, et al. Organ-specific inhibition of metastatic colon carcinoma by CXCR3 antagonism. Br J Cancer. 2009 Jun 2;100(11):1755-64.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA