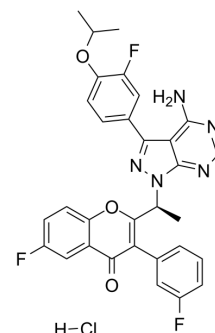


Umbralisib hydrochloride

Cat. No.:	HY-12279C
CAS No.:	1532533-78-0
Molecular Formula:	C ₃₁ H ₂₅ ClF ₃ N ₅ O ₃
Molecular Weight:	608.01
Target:	PI3K; Casein Kinase
Pathway:	PI3K/Akt/mTOR; Cell Cycle/DNA Damage; Stem Cell/Wnt
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 150 mg/mL (246.71 mM)
 H₂O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
			1 mM	1.6447 mL	8.2235 mL
	5 mM	0.3289 mL	1.6447 mL	3.2894 mL	
	10 mM	0.1645 mL	0.8224 mL	1.6447 mL	

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (4.11 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (4.11 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Umbralisib (TGR-1202) hydrochloride is an orally active, potent and selective dual PI3K δ and casein kinase-1- ϵ (CK1 ϵ) inhibitor, with EC₅₀ of 22.2 nM and 6.0 μ M, respectively. Umbralisib hydrochloride exhibits unique immunomodulatory effects on chronic lymphocytic leukemia (CLL) T cells. Umbralisib hydrochloride can be used for haematological malignancies research^{[1][2][3][4]}.

IC₅₀ & Target

PI3K δ 22.2 nM (EC50)	CKI δ 6 μ M (EC50)	PI3K δ 6.2 nM (Kd)	CKI δ 180 nM (Kd)
PI3K γ	PI3K β	PI3K α	

	1400 nM (Kd)	>10000 nM (Kd)	>10000 nM (Kd)
In Vitro	<p>Umbralisib hydrochloride causes a half-maximal inhibition of human whole blood CD19 cell proliferation between 100-300 nM^[3].</p> <p>Umbralisib hydrochloride (10 nM-100 μM) inhibits phosphorylated AKT at Ser473 in a concentration-dependent manner in human lymphoma and leukemia cell lines^[4].</p> <p>Umbralisib hydrochloride (15-50 μM) potently represses the expression of c-Myc in the DLBCL cell line LY7, and is uniquely characterized with structural features suitable for targeting CK1ε in lymphoma cells^[4].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>		
In Vivo	<p>Umbralisib hydrochloride (150 mg/kg, daily p.o.) significantly shrinks the tumors by day 25 in a subcutaneous xenograft model of T-cell acute lymphoblastic leukemia (T-ALL) in NOD/SCID mice using the MOLT-4 cell line^[4].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>		

CUSTOMER VALIDATION

- J Med Chem. 2020 Nov 25;63(22):13973-13993.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Maharaj K, et al. The dual PI3Kδ/CK1ε inhibitor umbralisib exhibits unique immunomodulatory effects on CLL T cells. *Blood Adv.* 2020 Jul 14;4(13):3072-3084.
- [2]. Burris HA 3rd, et al. Umbralisib, a novel PI3Kδ and casein kinase-1ε inhibitor, in relapsed or refractory chronic lymphocytic leukaemia and lymphoma: an open-label, phase 1, dose-escalation, first-in-human study. *Lancet Oncol.* 2018 Apr;19(4):486-496.
- [3]. Swaroop Vakkalankaa, et al. Inhibition of PI3Kδ kinase by a selective, small molecule inhibitor suppresses B-cell proliferation and leukemic cell growth.
- [4]. Deng C, et al. Silencing c-Myc translation as a therapeutic strategy through targeting PI3Kδ and CK1ε in hematological malignancies. *Blood.* 2017 Jan 5;129(1):88-99

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

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