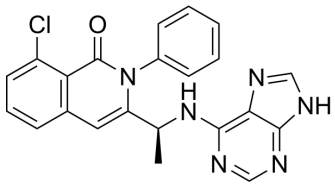
Duvelisib

Cat. No.:	HY-17044
CAS No.:	1201438-56-3
Molecular Formula:	$C_{22}H_{17}ClN_6O$
Molecular Weight:	416.86
Target:	PI3K
Pathway:	PI3K/Akt/mTOR

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 41 mg/mL (98.35 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3989 mL	11.9944 mL	23.9889 mL
5 mM	0.4798 mL	2.3989 mL	4.7978 mL
10 mM	0.2399 mL	1.1994 mL	2.3989 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.00 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.00 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Duvelisib (IPI-145) is a selectivite p100δ inhibitor with IC_{50} of 2.5 nM, 27.4 nM, 85 nM and 1602 nM for p110δ, P110γ, p110β and p110α, respectively[1][2].

IC_{50} & Target

p110δ	p110γ	p110β	p110α
2.5 nM (IC_{50})	27.4 nM (IC_{50})	85 nM (IC_{50})	1602 nM (IC_{50})

In Vitro

PI3Kδ and PI3Kγ inhibition with Duvelisib (IPI-145) has anti-proliferative activity in primary AML cells by inhibiting the activity of AKT and MAPK. Pre-treatment of AML cells with Duvelisib inhibits both adhesion and migration of AML blasts to bone marrow stromal cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nat Metab. 2020 Dec;2(12):1427-1442.
- Sci Transl Med. 2018 Jul 18;10(450):eaaq1093.
- Nat Commun. 2020 Apr 14;11(1):1792.
- Cell Syst. 2018 Apr 25;6(4):424-443.e7.
- OncoImmunology. 11 Oct 2022.

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REFERENCES

[1]. Pillinger G, et al. Targeting PI3Kδ and PI3Kγ signalling disrupts human AML survival and bone marrow stromal cell mediated protection. Oncotarget. 2016 Jun 28;7(26):39784-39795.

[2]. G?ckeritz E, et al. Efficacy of phosphatidylinositol-3 kinase inhibitors with diverse isoform selectivity profiles for inhibiting the survival of chronic lymphocytic leukemia cells. Int J Cancer. 2015 Nov 1;137(9):2234-42.

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