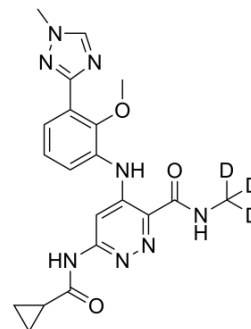


Deucravacitinib

Cat. No.:	HY-117287		
CAS No.:	1609392-27-9		
Molecular Formula:	C ₂₀ H ₁₉ D ₃ N ₈ O ₃		
Molecular Weight:	425.46		
Target:	JAK; Interleukin Related; IFNAR		
Pathway:	Epigenetics; JAK/STAT Signaling; Stem Cell/Wnt; Immunology/Inflammation		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 37.5 mg/mL (88.14 mM; Need ultrasonic)				
		Solvent	Mass		
		Concentration	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.3504 mL	11.7520 mL	23.5040 mL
		5 mM	0.4701 mL	2.3504 mL	4.7008 mL
	10 mM	0.2350 mL	1.1752 mL	2.3504 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline Solubility: 3.83 mg/mL (9.00 mM); Suspended solution; Need ultrasonic				
	2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.89 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (4.89 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Deucravacitinib (BMS-986165) is a highly selective, orally bioavailable allosteric TYK2 inhibitor for the treatment of autoimmune diseases, which selectively binds to TYK2 pseudokinase (JH2) domain (IC ₅₀ =1.0 nM) and blocks receptor-mediated Tyk2 activation by stabilizing the regulatory JH2 domain. Deucravacitinib inhibits IL-12/23 and type I IFN pathways ^{[1][2]} .			
IC₅₀ & Target	Tyk2 JH2 0.2 nM (IC ₅₀)	JAK1 JH2 1 nM (IC ₅₀)	IL-12	IL-23

In Vitro

Deucravacitinib (BMS-986165) is differentiated from previous JAK inhibitors due its unique ability to selectively bind to the pseudokinase (JH2) domain of TYK2 and inhibit its function through an allosteric mechanism^[1].

Deucravacitinib maintains excellent potency in human and mouse whole blood (IC_{50} s=13 and 100 nM, respectively) and shows no significant hERG inhibition in the flux assay (IC_{50} >80 μ M)^[1].

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

CUSTOMER VALIDATION

- Cell Death Differ. 2021 Feb;28(2):748-763.
- iScience. 2021, 102498.
- Inflamm Bowel Dis. 2020 Dec 9;izaa318.
- Research Square Preprint. 2020 Nov.
- Patent. US20200345731A1.

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REFERENCES

[1]. Wroblewski ST, et al. Highly Selective Inhibition of Tyrosine Kinase 2 (TYK2) for the Treatment of Autoimmune Diseases: Discovery of the Allosteric Inhibitor BMS-986165. J Med Chem. 2019 Jul 18.

[2]. Catlett I, et al. SAT0226 A first-in-human, study of BMS-986165, a selective, potent, allosteric small molecule inhibitor of tyrosine kinase 2. Annals of the Rheumatic Diseases 2017;76:859.

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

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