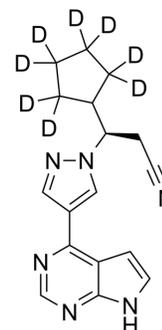


Deuruxolitinib

Cat. No.:	HY-50856S		
CAS No.:	1513883-39-0		
Molecular Formula:	C ₁₇ H ₁₀ D ₈ N ₆		
Molecular Weight:	314.41		
Target:	JAK		
Pathway:	Epigenetics; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Stem Cell/Wnt		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 125 mg/mL (397.57 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.1806 mL	15.9028 mL	31.8056 mL
	5 mM	0.6361 mL	3.1806 mL	6.3611 mL
	10 mM	0.3181 mL	1.5903 mL	3.1806 mL

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

BIOLOGICAL ACTIVITY

Description

Deuruxolitinib, a deuterated Ruxolitinib (HY-50856), modulates the activity of JAK1/JAK2. Deuruxolitinib can be used for the research hair loss disorders (from patent WO2017192905A1, compound I)^[1].

IC₅₀ & Target

JAK1	JAK2
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In Vitro

"Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[2].

Potential advantages of deuterated compounds:

- (1) Extend the half-life in vivo. Deuterated compounds may be able to prolong the pharmacokinetic characteristics of the compound, that is, prolong the half-life in vivo. This can improve compound safety, efficacy and tolerability, and increase ease of administration.
- (2) Improve oral bioavailability. Deuterated compounds may reduce the degree of unwanted metabolism (first-pass metabolism) in the gut wall and liver, allowing a greater proportion of the unmetabolized drug to reach its target site of action. High bioavailability determines its activity at low doses and better tolerance.

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- (3) Improve metabolic characteristics. Deuterated compounds may reduce the formation of toxic or reactive metabolites and improve drug metabolism.
- (4) Improve drug safety. Deuterated compounds may reduce or eliminate adverse side effects of pharmaceutical compounds and are safe.
- (5) Preserve the therapeutic properties. Deuterated compounds are expected to retain similar biochemical potency and selectivity to hydrogen analogs in previous studies.

"

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

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Amanda T. WAGNER, et al. Treatment of hair loss disorders with deuterated jak inhibitors. Patent WO2017192905A1
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Caution: Product has not been fully validated for medical applications. For research use only.

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