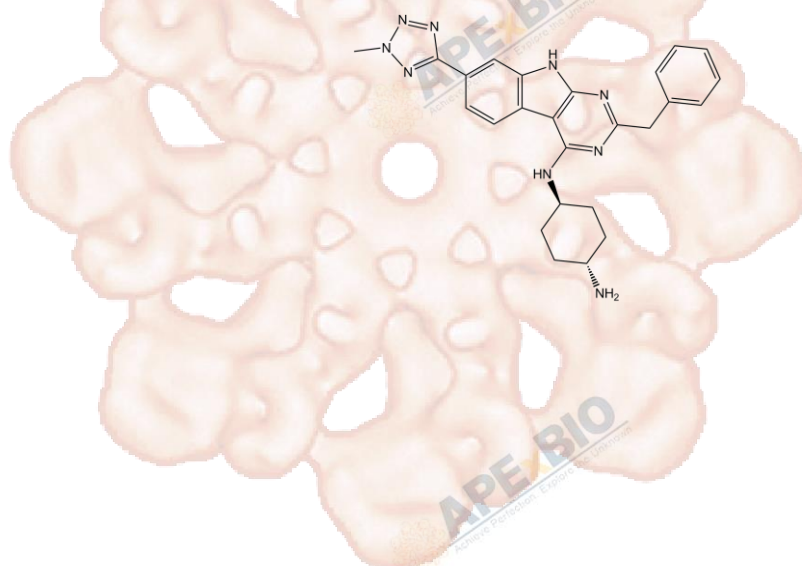


# Product Data Sheet

## UM 171

<b>Cat. No.:</b>	A8950
<b>CAS No.:</b>	1448724-09-1
<b>Formula:</b>	C25H27N9
<b>M.Wt:</b>	453.54
<b>Synonyms:</b>	
<b>Target:</b>	Stem Cell
<b>Pathway:</b>	HSC
<b>Storage:</b>	Store at -20°C



## Solvent & Solubility

≥22.68 mg/mL in DMSO; insoluble in H<sub>2</sub>O; insoluble in EtOH

In Vitro

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1mg	5mg	10mg
	1 mM		2.2049 mL	11.0244 mL	22.0488 mL
	5 mM		0.4410 mL	2.2049 mL	4.4098 mL
	10 mM		0.2205 mL	1.1024 mL	2.2049 mL

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

## Biological Activity

Shortsummary

HSC agonist

IC<sub>50</sub> & Target

In Vitro

### Cell Viability Assay

Cell Line:	CD34+ CB cells
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	35 nM, for different time point treatment.

	Applications:	Cells were treated with 35 nM UM171 for 3, 12, 24, 48 and 72 hours. At each time point, cells were lysed, RNA was extracted and sequenced. UM171 treatment was accompanied by a marked suppression of transcripts associated with erythroid and megakaryocytic differentiation. Only six to seven genes were commonly up- or down- regulated in cells exposed to UM171. The most highly up-regulated genes in UM171-treated cells encode for surface molecules. These genes include PROCR (also called EPCR or CD201), which represents a known marker of mouse LT-HSCs.
In Vivo	<b>Animal experiment</b>	
	Animal models:	Female NSG mice
	Dosage form:	35 nM treated with CD34+ CB cells
	Applications:	NSG mice were injected with CD34+ CB cells that had been originally cultured in DMSO or UM171. Levels of human cell engraftment were determined for ~300 mice and represented in the form of a heat map. Analysis of this dataset indicates two emerging patterns of human reconstitution, one from predominantly lymphomyeloid LT-HSCs, observed at high cell doses with most conditions, and the other from LT-HSCs that display a lymphoid-deficient differentiation phenotype mostly observed with UM171 treatment. Neither B lymphopoiesis nor the frequency or number of lymphomyeloid LT-HSCs is negatively affected by UM171. The impact of UM171 on LT-HSC was preserved at 30 weeks posttransplantation, at which time multilineage contribution remained obvious at the high cell dose.
Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.	

## Product Citations

1. Kevin A. Goncalves, Megan D. Hoban, et al. "Comparison of hematopoietic stem cell expansion methods reveals that aryl hydrocarbon receptor inhibition optimally expands CD90+ engrafting cells." Cell Stem Cell. 2 Apr 2018

See more customer validations on [www.apexbt.com](http://www.apexbt.com).

## References

[1] Fares I, Chagraoui J, Gareau Y, et al. Pyrimidoindole derivatives are agonists of human hematopoietic stem cell self-renewal. Science, 2014, 345(6203): 1509-1512.

## Caution

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**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

**APExBIO Technology**

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