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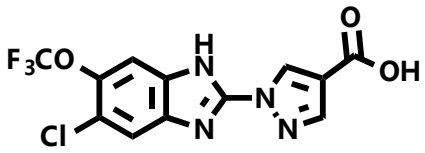
HIF-PHD Inhibitor – JNJ-42041935

Chemical Name: 1-(5-chloro-6-(trifluoromethoxy)-1H-benzo[d]imidazol-2-yl)-1H-pyrazole-4-carboxylic acid



Molecular Weight:	346.65
Formula:	$C_{12}H_6ClF_3N_4O_3$
Purity:	≥98%
CAS#:	1193383-09-3
Solubility:	DMSO up to 100 mM
Storage	Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year

Biological Activity:

JNJ-42041935 is a potent and selective HIF-PHD inhibitor. It is a 2-OG competitive and reversible inhibitor for PHD enzymes (pKis = 7.91, 7.29, and 7.65 for PHD1, 2, and 3, respectively). It is >100-fold selective for PHD compared to the related FIH (factor-inhibiting HIF) and a panel of various other enzymes. In an inflammation-induced anemia model in rats, 100 μM/kg/day JNJ-42041935 significantly increased the number of circulating reticulocytes and red blood cells, increased blood hemoglobin and hematocrit, and restored mean corpuscular volume and mean cell hemoglobin of red bloods cells. JNJ-42041935 is a new pharmacological tool, which can be used to investigate PHD inhibition and demonstrate that PHD inhibitors offer great promise for the treatment of inflammation-induced anemia.

How to Use:

In vitro: JNJ-42041935 was used at 10 μM final concentration in vitro and in cellular assays.

In vivo: JNJ-42041935 was dosed to mice orally at 100 μM/kg once per day.

Reference:

1. Barrett TD, et al. Pharmacological characterization of 1-(5-chloro-6-(trifluoromethoxy)-1H-benzoimidazol-2-yl)-1H-pyrazole-4-carboxylic acid (JNJ-42041935), a potent and selective hypoxia-inducible factor prolyl hydroxylase inhibitor. (2011) Mol Pharmacol. 79(6):910-20.