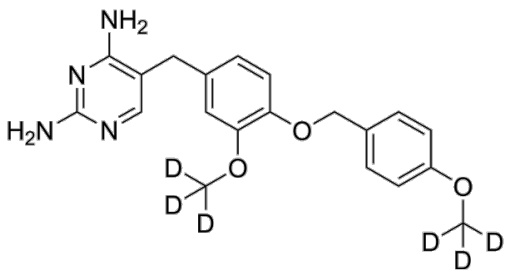
Product Data Sheet

Product Name: GW2580-d6
Cat. No.: GC72816

Chemical Properties

Cas. No.	2733770-48-2		
Formula	$C_{20}H_{16}D_6N_4O_3$	M.Wt	372.45
Solubility	DMSO : 100 mg/mL (268.49 mM; ultrasonic and warming and heat to 60°C)	Storage	-20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Background

GW2580-d6 is the deuterium labeled GW2580. GW2580 is an orally bioavailable and selective inhibitor of c-Fms kinase which completely inhibits human cFMS kinase in vitro at 0.06 μM. GW2580 acts as a competitive inhibitor of ATP binding to the cFMS kinase and inhibits colony-stimulating-factor-1 signaling.

Stable heavy isotopes of drogen, 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[1].

References:

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.
[2]. Conway JG, et al. Inhibition of colony-stimulating-factor-1 signaling in vivo with the orally bioavailable cFMS kinase inhibitor GW2580. Proc Natl Acad Sci U S A. 2005 Nov 1;102(44):16078-83.
[3]. Priceman SJ, et al. Targeting distinct tumor-infiltrating myeloid cells by inhibiting CSF-1 receptor: combating tumor evasion of antiangiogenic therapy. Blood. 2010 Feb 18;115(7):1461-71
[4]. Conway JG, et al. Effects of the cFMS kinase inhibitor 5-(3-methoxy-4-((4-methoxybenzyl)oxy)benzyl)pyrimidine-2,4-diamine (GW2580) in normal and arthritic rats. J Pharmacol Exp Ther. 2008 Jul;326(1):41-50.