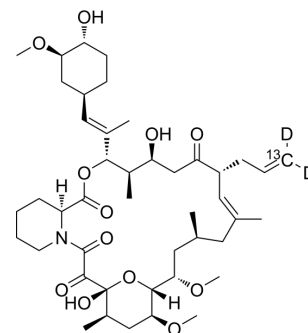


Tacrolimus-¹³C,₂D₂

Cat. No.:	HY-13756S		
CAS No.:	1356841-89-8		
Molecular Formula:	C ₄₃ ¹³ CH ₆₇ D ₂ NO ₁₂		
Molecular Weight:	807.02		
Target:	Phosphatase; FKBP; Autophagy; Bacterial; Antibiotic		
Pathway:	Metabolic Enzyme/Protease; Apoptosis; Autophagy; Immunology/Inflammation; Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



BIOLOGICAL ACTIVITY

Description	Tacrolimus- ¹³ C, ₂ D ₂ is a ¹³ C-labeled and deuterium labeled Tacrolimus. Tacrolimus (FK506), a macrocyclic lactone, binds to FK506 binding protein (FKBP) to form a complex. Tacrolimus inhibits calcineurin phosphatase, which inhibits T-lymphocyte signal transduction and IL-2 transcription. Immunosuppressive properties ^[1] .	
IC₅₀ & Target	Macrolide	Macrolide
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 ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

- [1]. Thomson AW, et al. Mode of action of Tacrolimus (FK506): molecular and cellular mechanisms. *Ther Drug Monit.* 1995 Dec;17(6):584-91.;Vogel KR, et al. mTOR inhibitors rescue premature lethality and attenuate dysregulation of GABAergic/glutamatergic transcri
- [2]. Vogel KR, et al. mTOR inhibitors rescue premature lethality and attenuate dysregulation of GABAergic/glutamatergic transcription in murine succinate semialdehyde dehydrogenase deficiency (SSADHD), a disorder of GABA metabolism. *J Inherit Metab Dis.* 2016 Nov;39(6):877-886.
- [3]. A W Thomson, et al. Mode of action of Tacrolimus (FK506): molecular and cellular mechanisms. *Ther Drug Monit.* 1995 Dec;17(6):584-91.;Vogel KR,

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

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