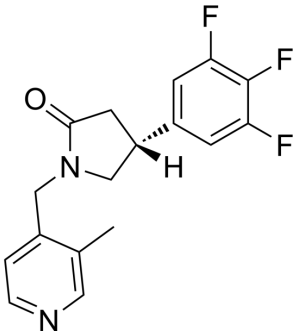
UCB-J

Cat. No.:	HY-136873
CAS No.:	2242957-52-2
Molecular Formula:	$C_{17}H_{15}F_3N_2O$
Molecular Weight:	320.31
Target:	Others
Pathway:	Others
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (312.20 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1220 mL	15.6099 mL	31.2198 mL
	5 mM	0.6244 mL	3.1220 mL	6.2440 mL
	10 mM	0.3122 mL	1.5610 mL	3.1220 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.80 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.80 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.80 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

UCB-J is a positron emission tomography (PET) radioligand for the synaptic vesicle protein 2A (SV2A)[1][2][3][4].

In Vivo

UCB-J exhibits high free fraction (0.46 ± 0.02) and metabolizes at a moderate rate (39% ± 5% and 24% ± 3% parent remaining at 30 and 90 min) in plasma[3].

UCB-J displays high uptake and fast kinetics in the monkey brain[3].

When the animal is pretreated with UCB-J (150 μg/kg, iv), the whole brain SUV decreases to the same level as centrum semiovale, indicating the in vivo binding specificity of [^{18}F]7 to SV2A[4].

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

REFERENCES

[1]. Joël Mercier, et al. Discovery of heterocyclic nonacetamide synaptic vesicle protein 2A (SV2A) ligands with single-digit nanomolar potency: opening avenues towards the first SV2A positron emission tomography (PET) ligands. ChemMedChem. 2014 Apr;9(4):693-8.

[2]. Aline Delva, et al. Loss of Presynaptic Terminal Integrity in the Substantia Nigra in Early Parkinson's Disease. Mov Disord. 2020 Aug 7.

[3]. Nabeel B Nabulsi, et al. Synthesis and Preclinical Evaluation of 11C-UCB-J as a PET Tracer for Imaging the Synaptic Vesicle Glycoprotein 2A in the Brain. J Nucl Med. 2016 May;57(5):777-84.

[4]. Zhengxin Cai, et al. Synthesis and Preclinical Evaluation of an 18 F-Labeled Synaptic Vesicle Glycoprotein 2A PET Imaging Probe: [18 F]SynVesT-2. ACS Chem Neurosci. 2020 Feb 19;11(4):592-603.

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

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