

Product Data Sheet

Product Name: MODAG-005

Cat. No.: GC79802

Chemical Properties

Cas. No. 2648041-73-8

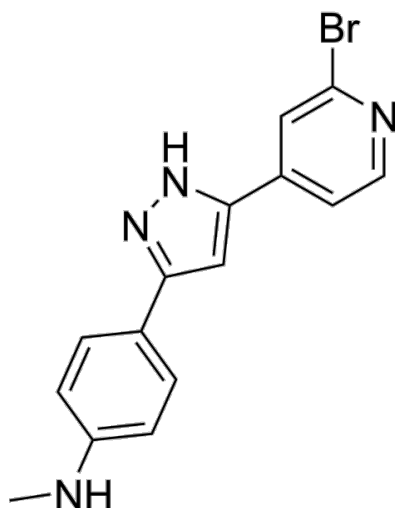
Formula $C_{15}H_{13}BrN_4$ M.Wt 329.19

Solubility DMSO: 125 mg/mL (379.72 mM; Need ultrasonic) Storage Store at 4°C, away from moisture

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

MODAG-005 is a blood-brain barrier-permeable PET probe precursor for α -synuclein (α -Syn)

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

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aggregates, with a K_i value of 0.4 nM and a K_d value of 0.2 nM. MODAG-005 specifically binds to high-affinity sites within the tubular cavity of α -synuclein fibrils, and exhibits selectivity over tau protein fibrils and β -amyloid (A β 1-42) fibrils. MODAG-005 is applicable to the research of multiple system atrophy and Parkinson's disease [1].

In Vivo, [^{11}C]MODAG-005 (intravenous administration; single bolus injection) exhibits rapid brain uptake, fast clearance, and low production of brain metabolites in healthy mice [1]. [^{11}C]MODAG-005 (intravenous administration; single bolus injection) binds specifically to α -synuclein fibrils in rats with striatal injections [1]. [^{11}C]MODAG-005 (intravenous administration; single bolus injection) exhibits specific, pathology-associated binding to intracellular α -synuclein aggregates in α -SynA30P transgenic mice [1]. [^{11}C]MODAG-005 (intravenous administration; single bolus injection) exhibits favorable pharmacokinetic properties in healthy cynomolgus monkeys, including rapid brain uptake, rapid clearance, and detectable plasma metabolism [1].

In Vitro, [^3H]MODAG-005 exhibits subnanomolar binding affinity for recombinant human α -synuclein fibrils, shows 36-fold lower affinity for tau fibrils and over 100-fold lower affinity for A β 1-42 fibrils, with an MAO-B IC_{50} of 0.8 μM and no other relevant off-target binding [1]. [^3H]MODAG-005 binds specifically to α -synuclein pathology in post-mortem human multiple system atrophy (MSA) brain tissues, with a high-affinity binding site ($K_d = 0.19$ nM); it shows no specific binding in control brain tissues and does not bind to monoamine oxidase B (MAO-B) in MSA tissues [1].

References:

[1]. Saw RS, et al. The PET tracer [^{11}C]MODAG-005 targets alpha-synuclein aggregates in the brain. Sci Transl Med. 2026 May 27;18(851):eaec0813.

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