

"Autoradiography validation of two novel PET radiotracers [³H] M503-1619 and [³H] HY-2-15 for imaging a-synuclein in PD and MSA."

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³H M503-1619

H M503-1619

³H HY-2-15

³H HY-2-15

MSA PDD PSP CBD

TotalNSB

• Total

NSB

^{[3}H] M503-1619 *in vitro* real time autoradiography

Introduction

- The accumulation of aggregated α-synuclein is a pathological hallmark of Parkinson's disease (PD) and other synucleinopathies, such as dementia with Lewy bodies and multiple system atrophy (MSA).
- The ability to image α-synuclein deposition in the brain would be key for the diagnosis of synucleinopathies, to monitor the disease progression over time, and to facilitate the development of novel treatments.
- Here within, we report the in vitro characterization of two potential radioligands for the detection of α-synuclein respectively in Parkinson's disease and multiple system atrophy.

Experimental procedure



[3H] M503-1619 specific binding on brain tissue from different a-synucleinopathy and tauopathy cases.

[³H] HY-2-15 in vitro real time autoradiography





[³H] HY-2-15 specific binding on brain tissue from different a-synucleinopathy and tauopathy cases.

[³H] M503 and [³H] HY-215 Immunohistochemistry study



 [H] M503-1619 autoradiography on human brain sections from different cases and its colocalization with pS129 α-synuclein and ptau (AT8) IHC. Autoradiography Antibody staining Autoradiography Antibody staining



• [³H] HY-2-15 autoradiography on human brain sections from different cases and its colocalization with pS129 α-synuclein and ptau (AT8) IHC.

Conclusions

[³H] HY-2-15 showed potential for imaging GCIs in MSA patients, while [³H] M503-1619 for Lewy bodies in PD.

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