Effects of NE3107 Anti-inflammatory Treatment on Motor Activity and Neurodegenerative Features of Parkinson's Disease in a Marmoset Monkey Model

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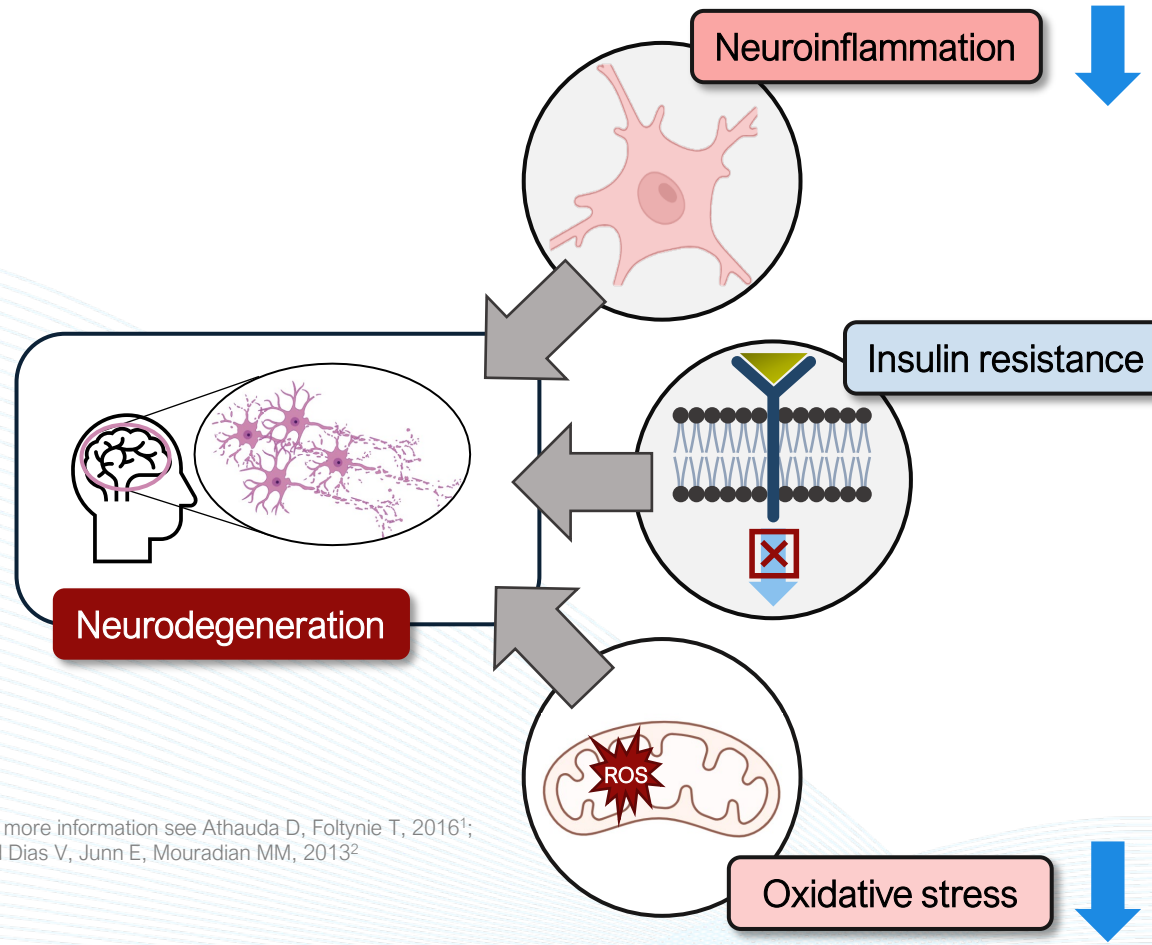
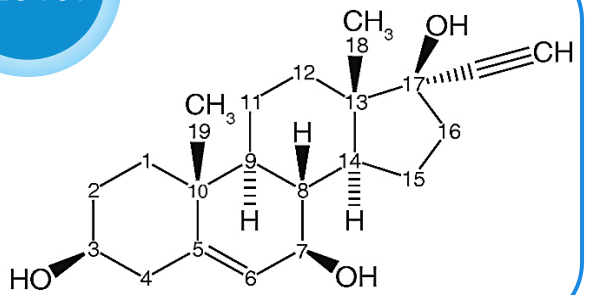
Background



NE3107



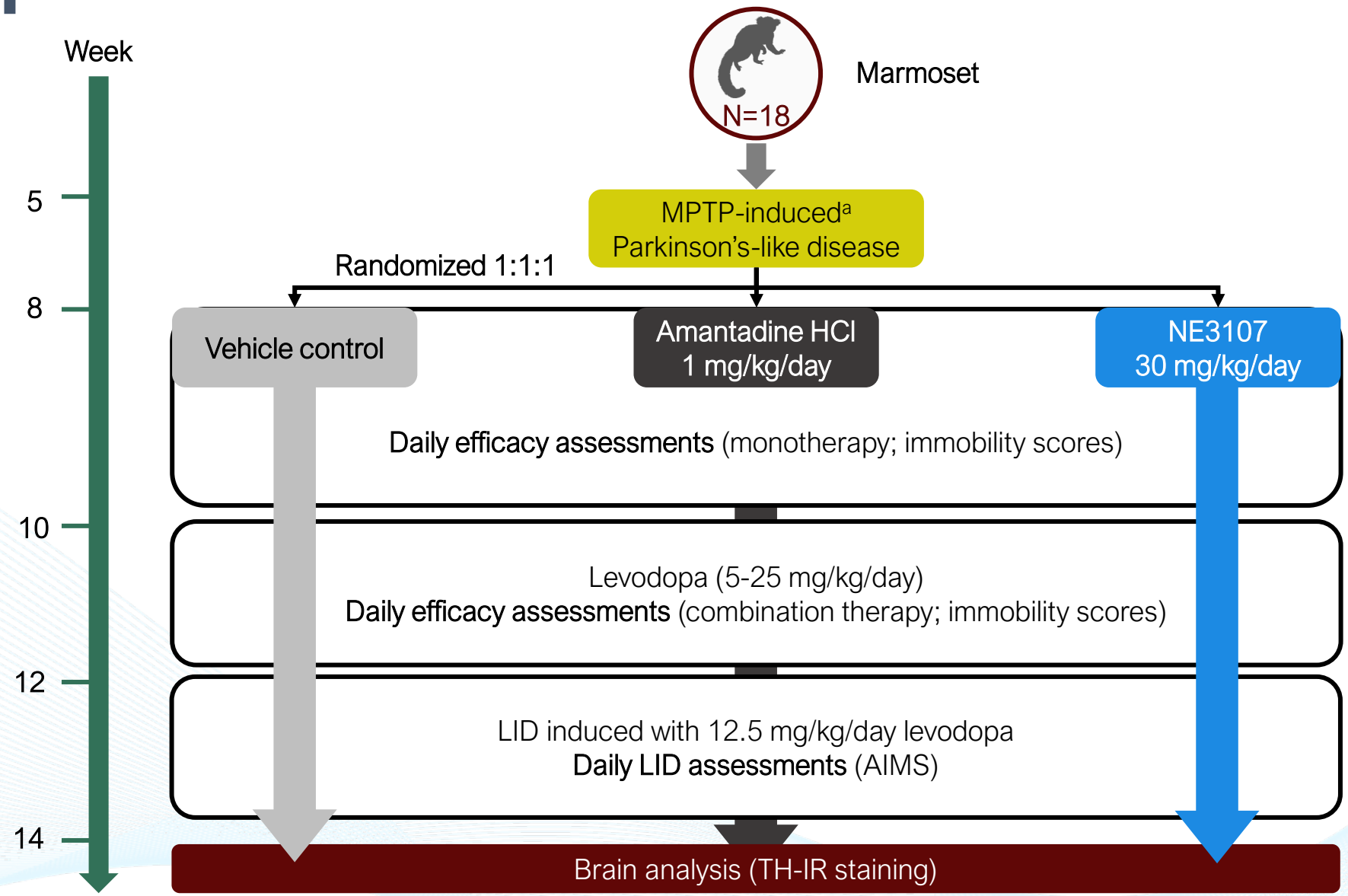
- Oral
- BBB-permeable
- Small molecule
- Anti-inflammatory
- Insulin-sensitizing
- Associated with increased brain glutathione
- Favorable safety profile

For more information see Athauda D, Foltynie T, 2016[1]; and Dias V, Junn E, Mouradian MM, 2013[2]

For more information see Reading CL, Ahlem CN, Murphy MF, 2021[3]; and Haroon J, Mahdavi K, Jordan K, et al, 2013[4]

BBB, blood-brain barrier; ROS, reactive oxygen species.

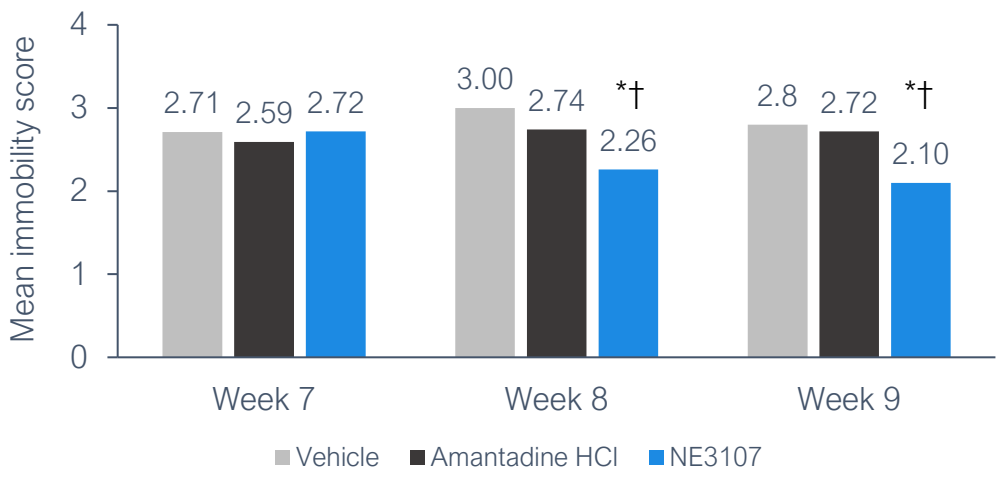
Study design



[a]Administered subcutaneously on days 3-5 of week 5 and days 1 and 3 of week 6 for a total of 6.5 mg/kg.
AIMS, Abnormal Involuntary Movement Score; LID, levodopa-induced dyskinesia; MPTP, 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine; TH-IR, tyrosine hydroxylase-immunoreactive.

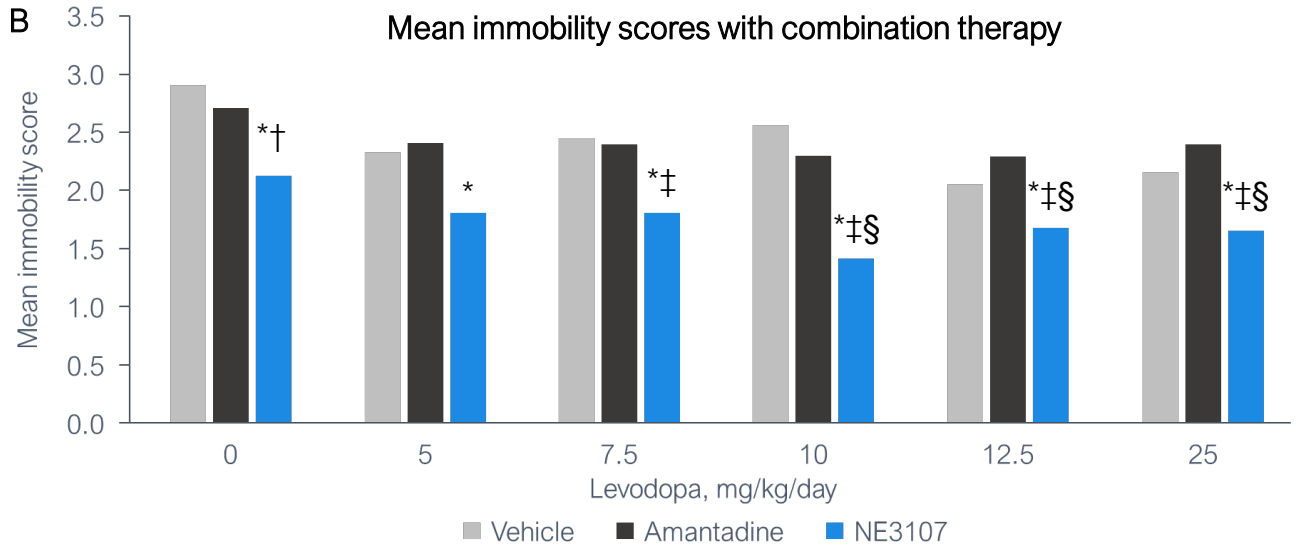
Results

A



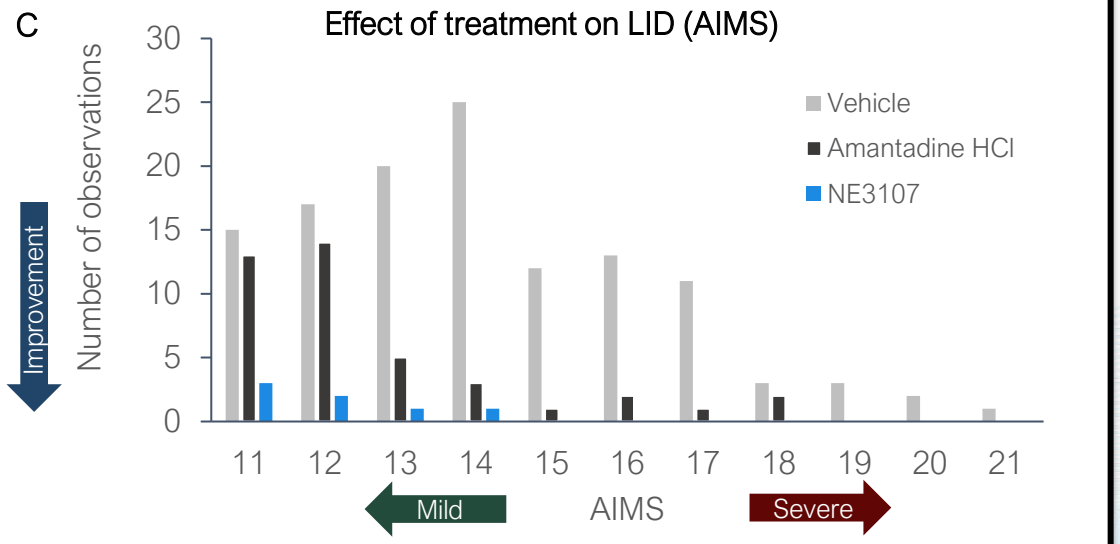
*P<0.01 vs vehicle; †P<0.01 vs amantadine HCl monotherapy.

B

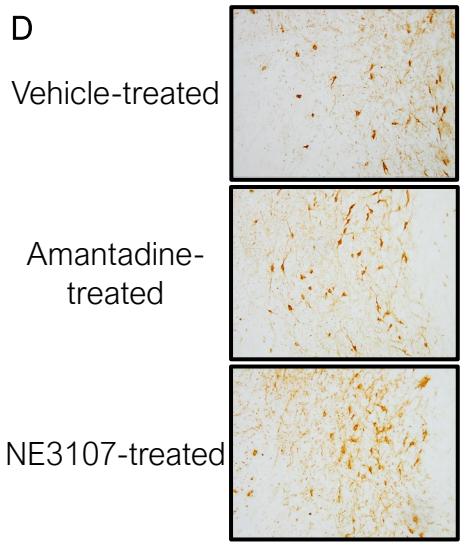


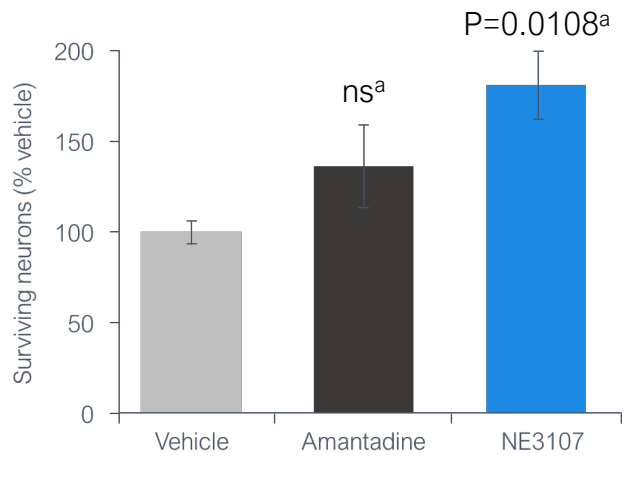
*P<0.05 vs vehicle and vehicle + levodopa; †P<0.05 vs amantadine HCl monotherapy; ‡P<0.05 vs NE3107 monotherapy; §P<0.05 vs amantadine HCl + levodopa.

C



D





avs vehicle.
ns, non-significant.

Conclusions

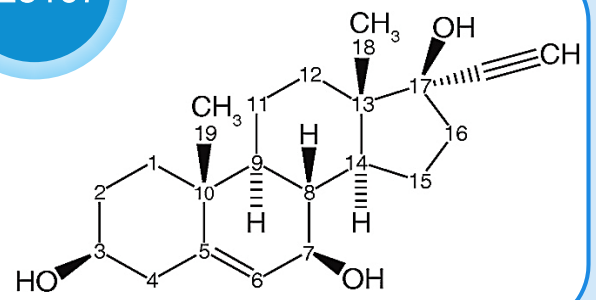
NE3107 may influence neuro-motor signaling and neurodegeneration by modulating neuroinflammation

Improved mobility with monotherapy

Markedly decreased symptoms of LID

Observed effects of NE3107

NE3107



Improved levodopa efficacy

Enhanced survival of TH+ neurons in the SNpc

SNpc, substantia nigra pars compacta.

Questions

Marmoset PD study: poster #1353
Category: Parkinson's Disease: Pharmacology and Therapy
Exhibition Hall: August 30 (1-3 pm)

Efficacy data from a phase 2 trial of NE3107 in patients with PD: poster #2
Category: Clinical Trials and Therapy in Movement Disorders (non-PD) (non-Dystonia)
Exhibition Hall: August 28 (1-3 pm)

Safety and pharmacokinetics data from a phase 2 trial of NE3107 in patients with PD: poster #1
Category: Clinical Trials and Therapy in Movement Disorders (non-PD) (non-Dystonia)
Exhibition Hall: August 28 (1-3 pm)

References

1. Athauda D, Foltynie T. Insulin resistance and Parkinson's disease: a new target for disease modification? Prog Neurobiol. 2016;145-146:98-120.

2. Dias V, Junn E, Mouradian MM. The role of oxidative stress in Parkinson's disease. J Parkinsons Dis. 2013;3(4):461-491.

3. Reading CL, Ahlem CN, Murphy MF. NM101 phase III study of NE3107 in Alzheimer's disease: rationale, design and therapeutic modulation of neuroinflammation and insulin resistance. Neurodegener Dis Manag. 2021;11(4):289-298.

4. Haroon J, Mahdavi K, Jordan K, et al. Biomarker assessments from a phase 2, open-label study of NE3107 in patients with cognitive decline due to degenerative dementias. Poster presented at: Clinical Trials on Alzheimer's Disease (CTAD) Conference; November 29-December 2, 2022; San Francisco, CA.

Acknowledgments and disclosures

Acknowledgments

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Disclosures

CA and CLR are employees of BioVie Inc. IHCHMP has nothing to disclose.