

Sighild Lemarchant<sup>1</sup>, Liam Beckett<sup>2</sup>, Irina Belaya<sup>3</sup>, Jaan Korpikoski<sup>2</sup>, Katja Kanninen<sup>3</sup>, Merja Voutilainen<sup>2</sup>, Yann Godfrin<sup>1,4</sup>

<sup>1</sup>Axoltis Pharma, Lyon, France <sup>2</sup>HiLife, University of Helsinki, Helsinki, Finland <sup>3</sup>AI Virtanen Institute for Molecular Sciences, University of Eastern Finland, Kuopio, Finland <sup>4</sup>Godfrin Life-Sciences, Caluire-et-Cuire, France



## INTRODUCTION

NX210c is a 12-amino acid cyclic peptide derived from the subcommissural organ-spondin, with a unique multifunctional mechanism of action to treat neurological disorders. For instance, it displays beneficial effects on several aspects of ALS pathology: reduction of neuronal death induced by glutamate excitotoxicity (Delétage *et al.*, 2021), and increases in synaptic transmission (Lemarchant *et al.*, 2022) and blood-brain barrier integrity (see poster P-050). The aim of this study was therefore to evaluate the therapeutic effect of NX210c peptide in the SOD1<sup>G93A</sup> mouse model of ALS.

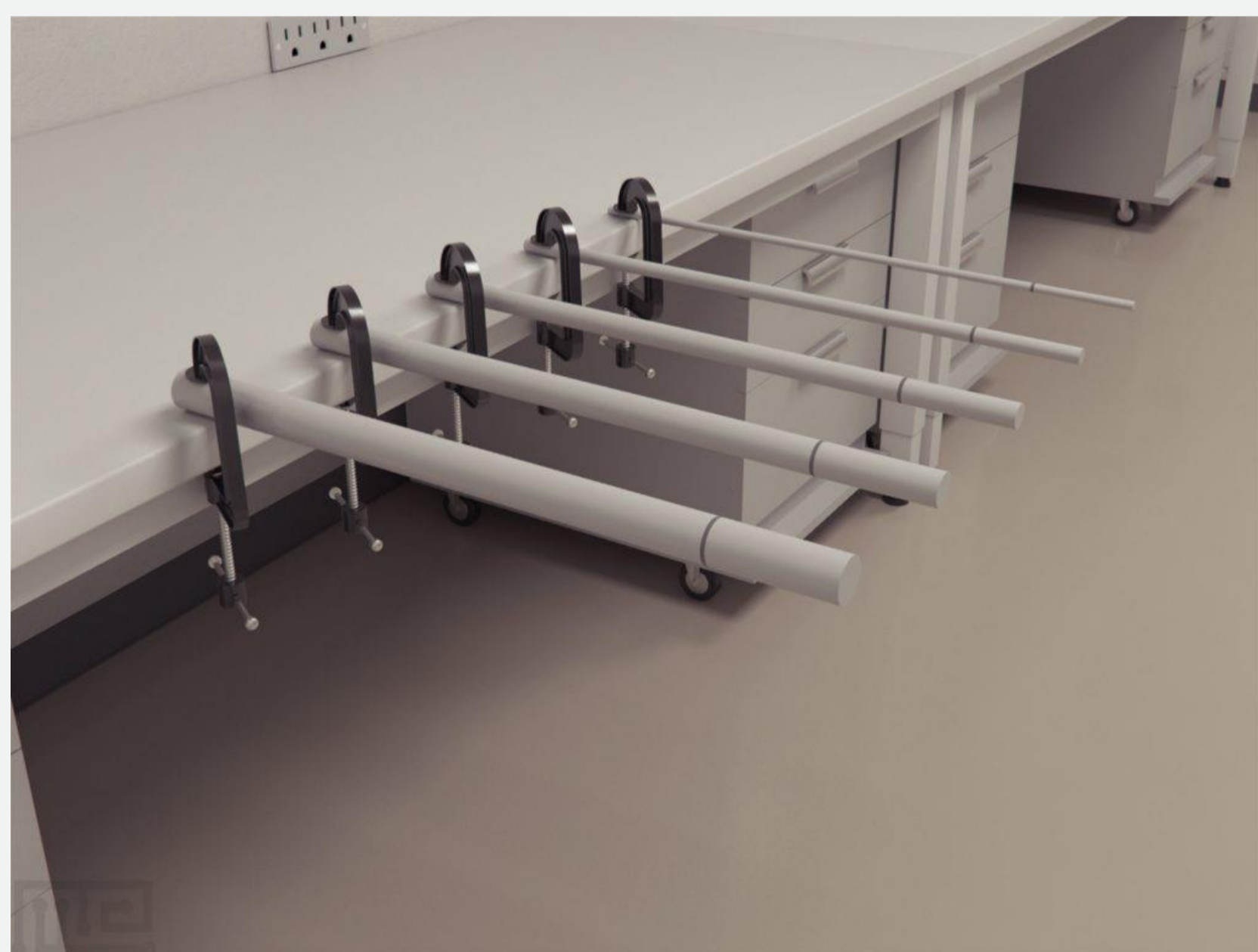
## METHODS

Female SOD1<sup>G93A</sup> mice were treated daily with intraperitoneal injections of vehicle or NX210c (2.5, 5 or 10 mg/kg) from 90 days old. The static rods test was performed every other week to evaluate motor deficits. Briefly, mice were placed with their back facing the clamped end of the rod. The orientation time to turn back and the travel time to walk the 60 cm back to the edge of the rod were recorded (= total time). The smaller the rod diameter, the harder the task. The clinical score (see ALS Therapy Development Institute guidelines) was evaluated twice a week to determine overall survival.

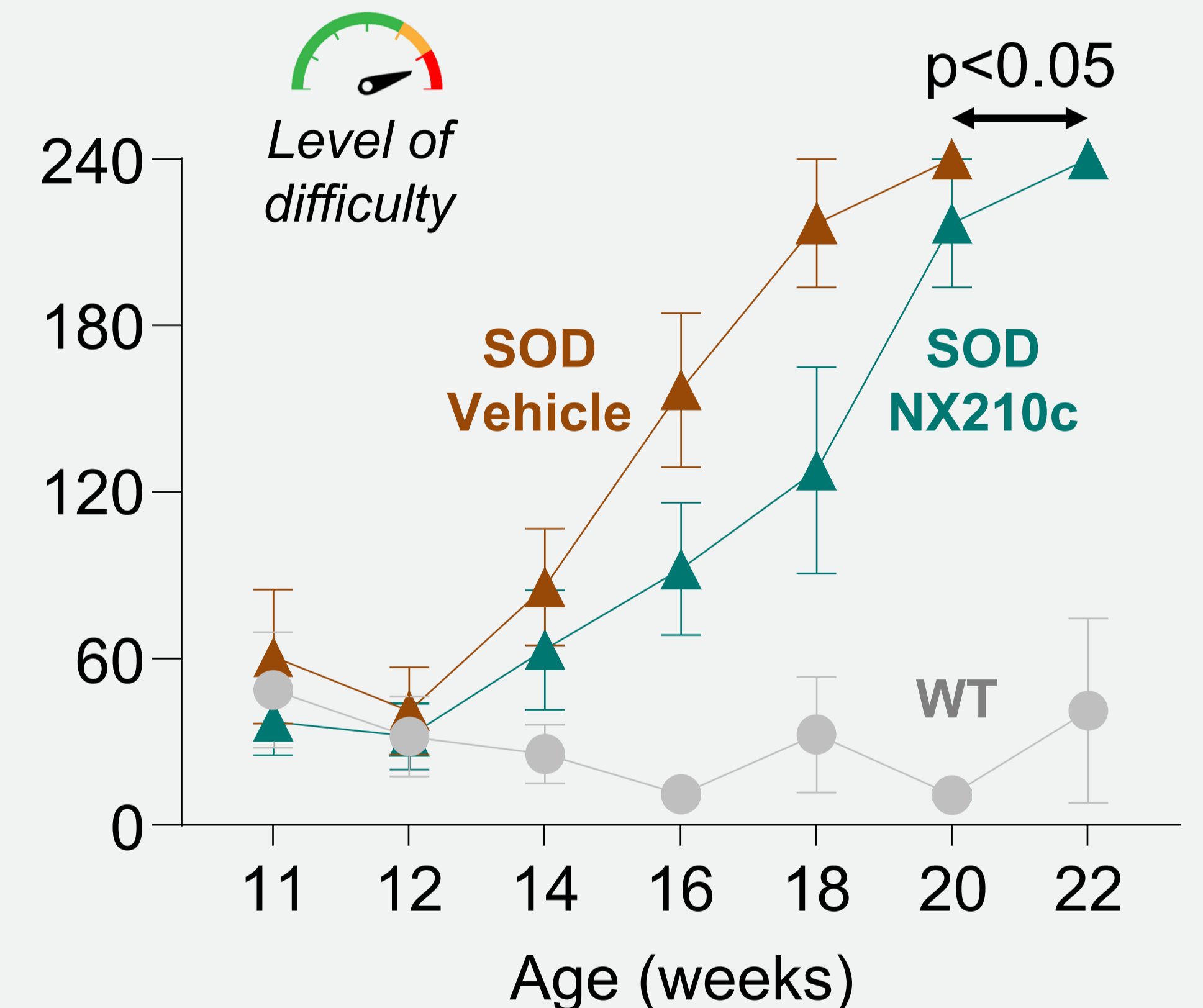
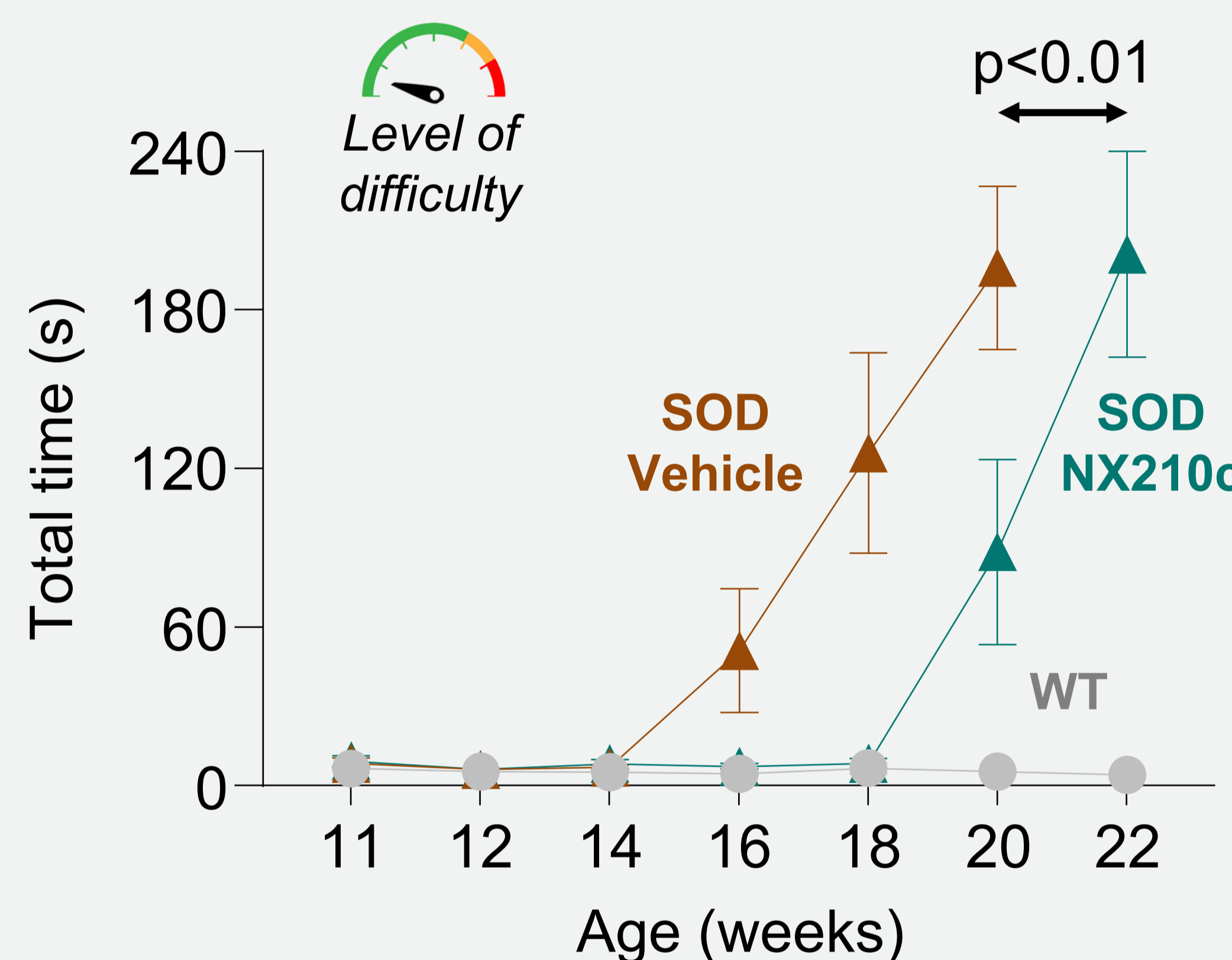
## RESULTS

### NX210c improves motor function of SOD mice

NX210c at 10 mg/kg reduced ALS-induced increased orientation and travel times from 16 weeks old until disease end-stage on the widest/easiest rods (n=20-23/group). NX210c benefit on motricity was also seen on the tiniest/hardest rods. No significant effect of NX210c at 2.5 and 5 mg/kg.

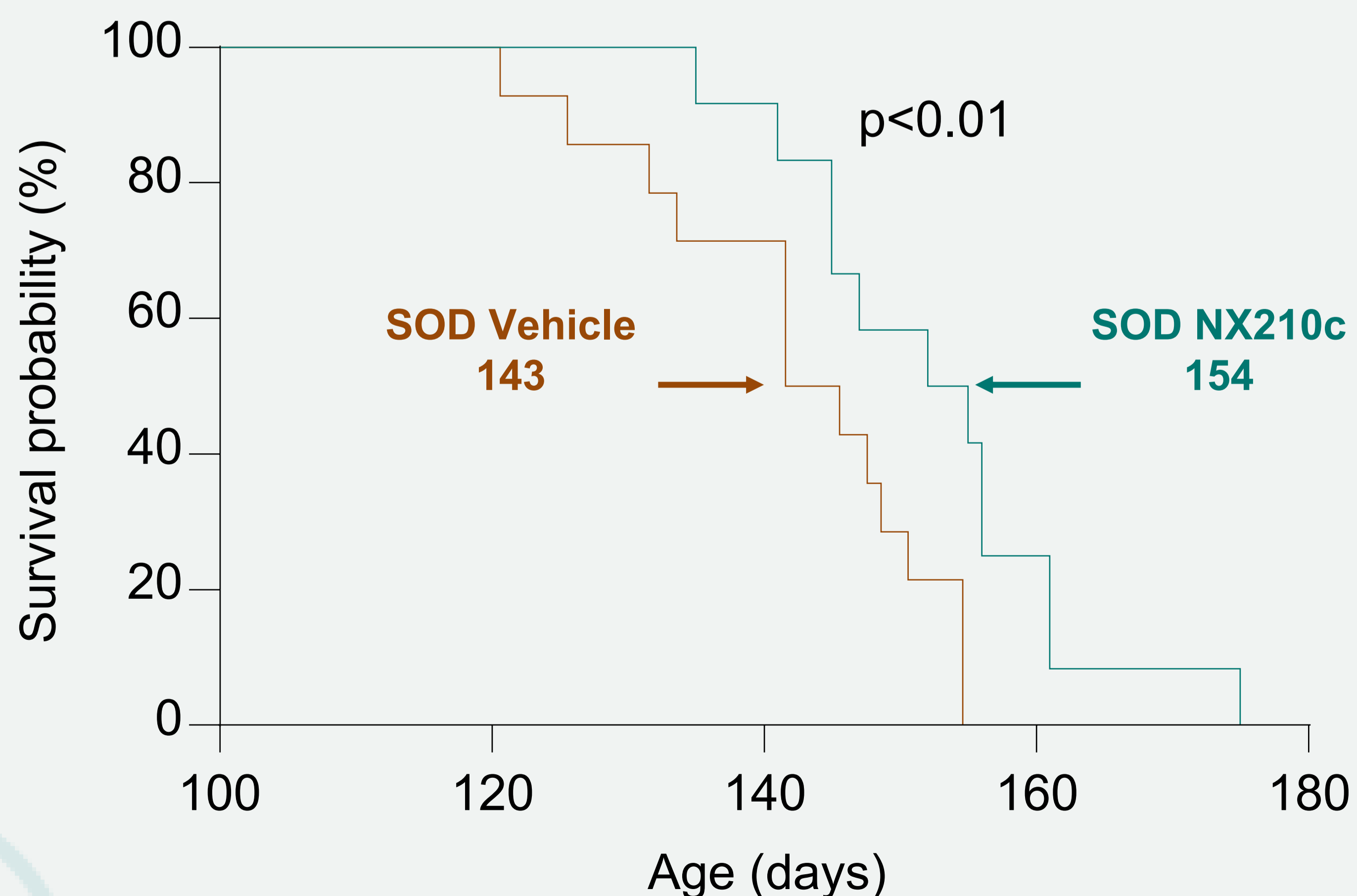


Static rods test



### NX210c prolongs survival of SOD mice

NX210c also extended SOD1<sup>G93A</sup> mice overall survival by 11 days (n=12-14/group). No significant effect of NX210c at 2.5 and 5 mg/kg.



## CONCLUSIONS

NX210c is an innovative drug candidate that improves motor function and survival in a SOD1<sup>G93A</sup> mouse model. These results among an extensive preclinical package demonstrating the drug properties, added to single and multiple ascending dose clinical trials showing a good safety profile and significant pharmacodynamic effects, support the planned Phase II clinical trial evaluating NX210c efficacy in ALS patients (NCT06365216).

Scan this QR code for more information on NX210c:



axoltis  
pharma

The CNS Regeneration Company®

**Disclosures:** SL is employed by Axoltis Pharma. YG is the CEO and a shareholder of Axoltis Pharma.