

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: 3D reconstruction of the soNMJ model (Related to Fig. 3c).

File Name: Supplementary Movie 2

Description: Contraction recordings of day 50 and day 75 soNMJ cultures and the response to pharmacological treatments (Related to Fig. 3e).

File Name: Supplementary Movie 3

Description: Calcium imaging of the soNMJ model and the response to curare (Related to Fig. 4a).

File Name: Supplementary Movie 4

Description: Optogenetic analysis of day 75 soNMJ model and the response to curare (Related to Fig. 4f).

File Name: Supplementary Movie 5

Description: SMA soNMJ contraction and the response to pharmacological treatments (Related to Fig. 5f).

File Name: Supplementary Movie 6

Description: 3D reconstruction of the PAX7/LAMININ immunofluorescence image at day 100 (Related to Supplementary Fig. 5e).

File Name: Supplementary Movie 7

Description: 3D reconstruction of a D100 soNMJ confocal image showing the presence of terminal Schwann cells (S100 β + ; green), spinal neurons (TUBB3+ ; magenta) and NMJs (α BTX; cyan). (Related to Supplementary Fig. 5f).

File Name: Supplementary Movie 8

Description: SMA optogenetic analysis of day 50 SMA soNMJ culture (Related to Supplementary Fig. 8f).