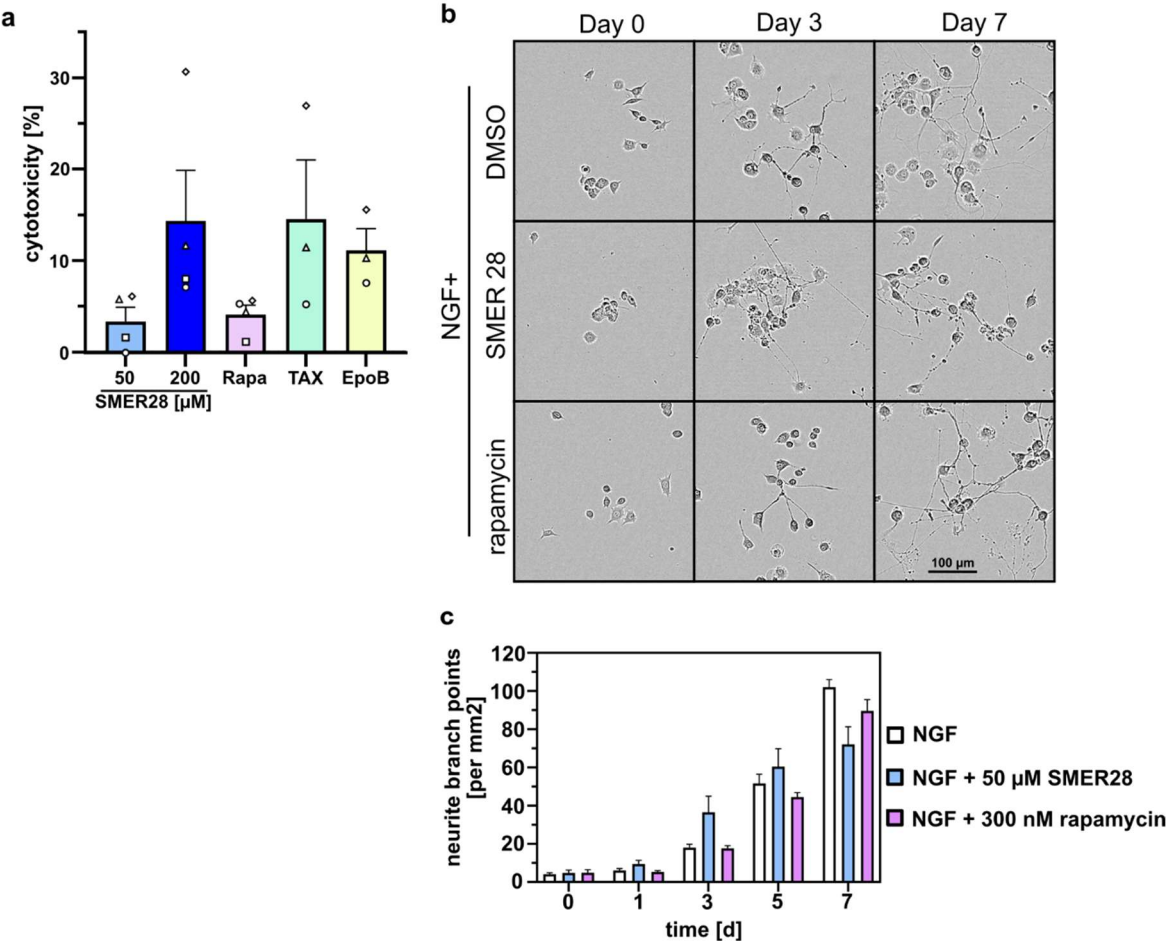


1 **Supplementary Information**

2 **Supplementary Figure S1**

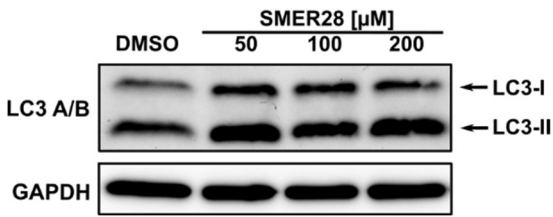


4 **Supplementary Figure S1**

5 **SMER28 induces mild cytotoxicity and promotes neurite outgrowth in PC-12 cells. (a)**
6 MTT assay of 50 μ M or 200 μ M SMER28, 300 nM Rapamycin, 150 nM epothilone B or 150
7 nM paclitaxel in comparison to DMSO as vehicle control in U-2 OS cells. Graph shows the
8 mean cytotoxicity $\pm$ s.e.m. from three independent experiments. * P <0.05 (two-tailed t-test). **(b)**
9 PC-12 cells were treated with 50 μ g/ml NGF and 50 μ M SMER28, 300 nM Rapamycin or
10 DMSO control and recorded by phase contrast imaging. Phase contrast images depict neurite
11 outgrowth after 0-, 3- and 7-days. **(c)** Graph shows the mean neurite branch points $\pm$ s.e.m.
12 from four independent experiments with six replicates.

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Supplementary Figure S2



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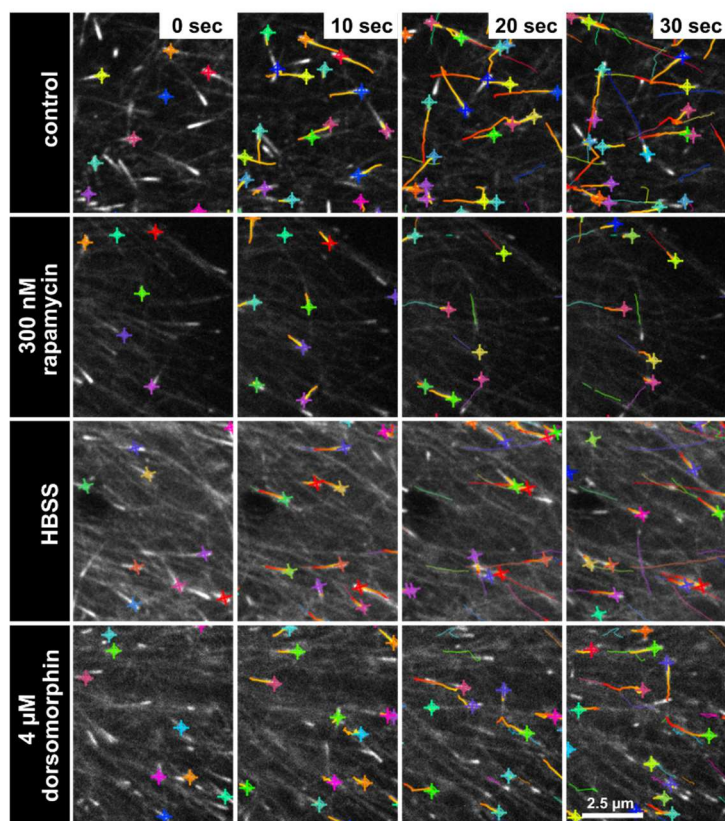
Supplementary Figure S2

19 SMER28 induces LC3 production in different concentrations. U-2 OS cells treated for 16 hours
20 with different concentrations of SMER28, as indicated, or DMSO control were analyzed by
21 Western blot with LC3 antibodies or GAPDH as loading control.

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Supplementary Figure S3



Supplementary Figure S3

EGFP-CLIP-170 dynamics after treatment with rapamycin, HBSS or Dorsomorphin; related to Fig. 5b. Images show EGFP-CLIP-170 dynamics expressed in U-2 OS cells after treatments and time points as indicated. Color crosses highlight MT plus-ends and colour trails indicate passed tracks.

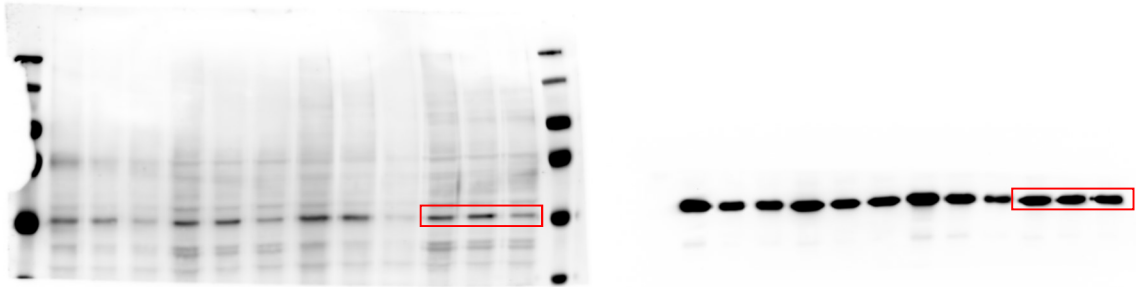
Supplementary Movie S1. U-2 OS cells expressing pEGFP-CLIP-170 were treated with 50 μ M or 200 μ M SMER28 for 4 hours, as indicated. Cells were imaged every second for 1 minute by spinning disk microscopy. Scale bar: 100 μ m.

Supplementary Movie S2. U-2 OS cells expressing pEGFP-CLIP-170 were treated with 300 nM rapamycin, HBSS or 4 μ M dorsomorphin for 4 hours, as indicated. Cells were imaged every second for 1 minute by spinning disk microscopy. Scale bar: 100 μ m.

39 **APPENDIX**

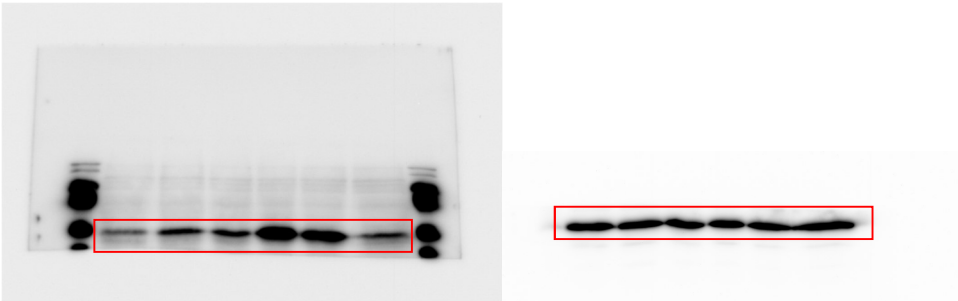
40 Uncropped raw Western Blot images

41 Raw images to Figure 2c



42

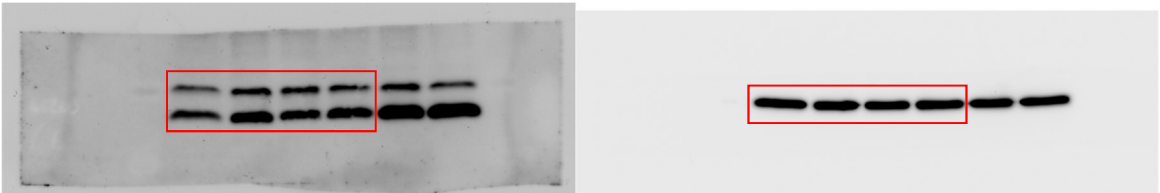
43 Raw images to Figure 4a



44

45

46 Raw images to Supplementary Figure 2



47