Supplementary Material (ESI) for Lab on a Chip

The network formation assay: a spatially standardized neurite outgrowth analytical display for neurotoxicity screening

Jean-Philippe Frimat[a†], Julia Sisnaiske[b†], Subanatarajan Subbiah[c], Heike Menne[a], Patricio Godoy[b], Peter Lampen[a], Marcel Leist[d], Joachim Franzke[a], Jan G. Hengstler[b], Christoph van Thriel[b]* and Jonathan West[a]*

[a] *ISAS – Institute for Analytical Sciences, Otto-Hahn-Str. 6b, D-44227 Dortmund, Germany.*

[b] *Leibniz Research Centre for Working Environment and Human Factors at the University of Dortmund (IfADo), Ardeystr. 67, D-44139 Dortmund, Germany.*

[c] *Fakultät Bio- und Chemieingenieurwesen, Lehrstuhl für Systemdynamik und Prozessführung, Technische Universität Dortmund, D-44221, Dortmund, Germany.*

[d] *Department of Biology, Universität Konstanz, Postfach M633, D-78457 Konstanz, Germany.*

[†] These authors contributed equally to the research.

* These senior authors contributed equally to the research.

Correspondence to: *thriel@ifado.de*; *west@isas.de*

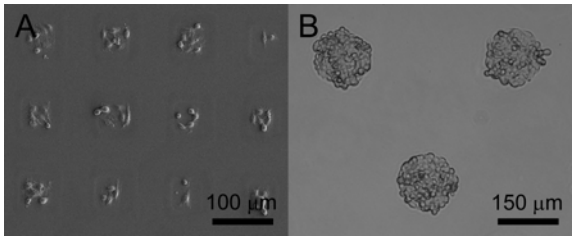

Fig. S1 MCF-7 and HT29 cell patterns.

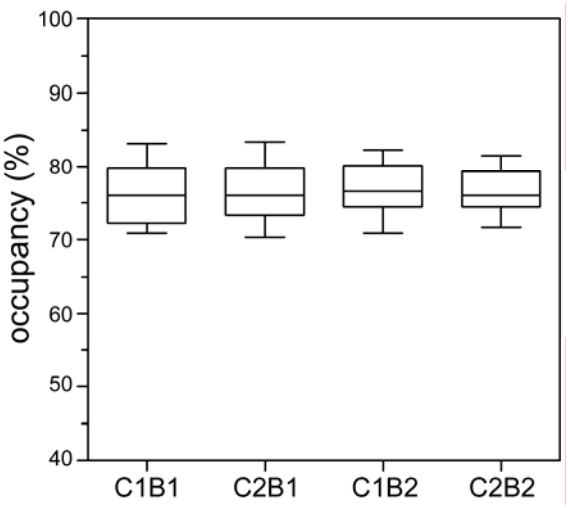

Fig. S2 Chip to chip (C) and batch to batch (B) pattern occupancy variations.

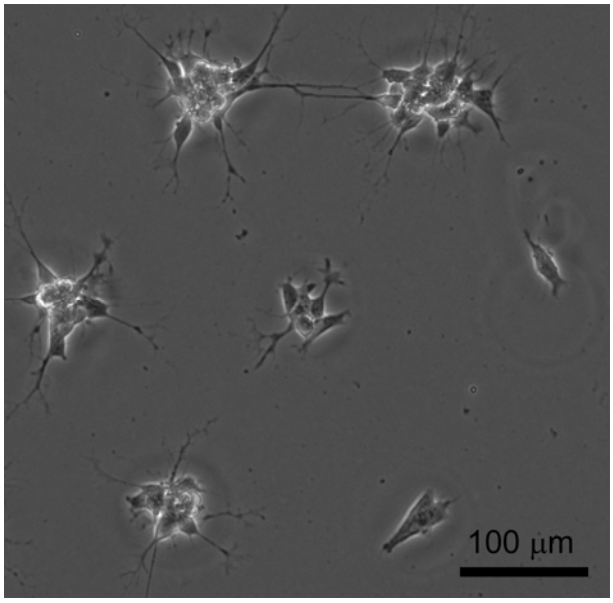

Fig. S3 Neuronal network at 24 h.

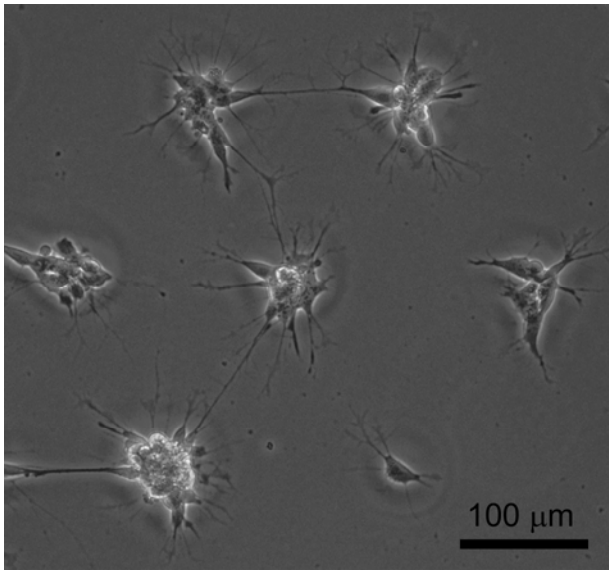

Fig. S4 Neuronal network at 48 h.

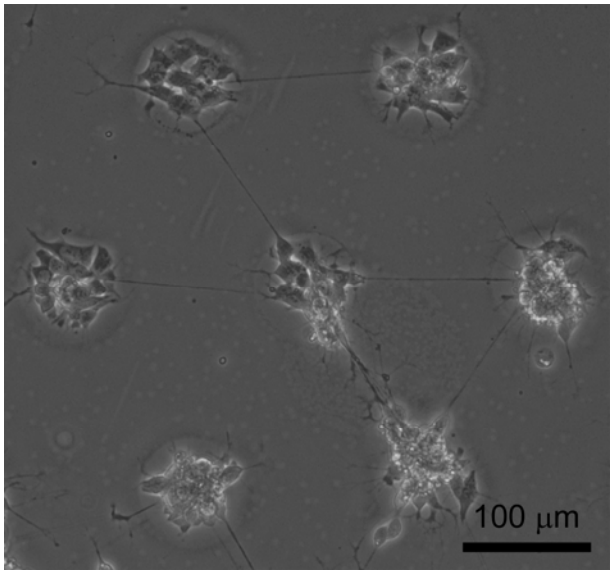

Fig. S5 Neuronal network at 72 h.

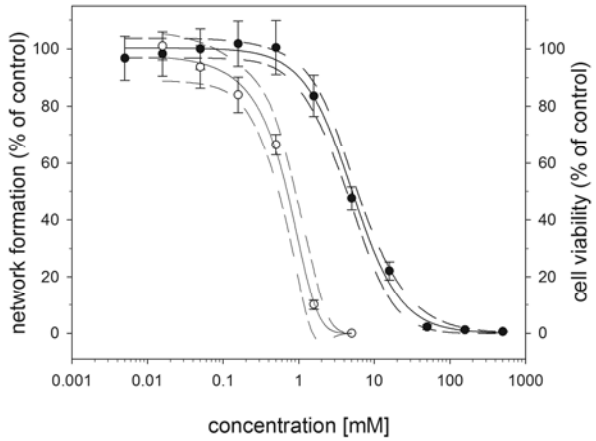

Fig. S6 NFA reproducibility.

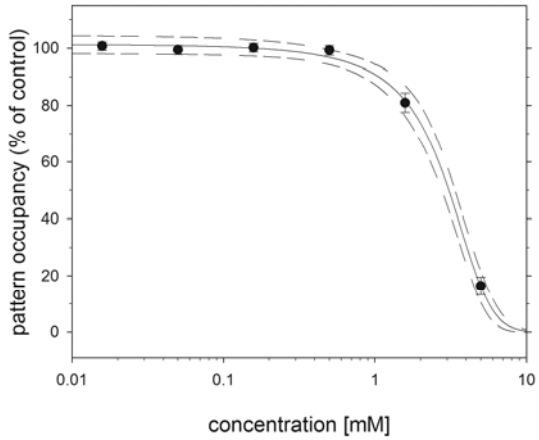

Fig. S7 Pattern occupancy can be used to measure cytotoxicity.