Electronic Supplementary Information (ESI)

Chemically induced synaptic activity between primary hippocampal co-cultures in a microfluidic system

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Figure S1

Figure S1: Formatted data from a single calcium imaging experiment. Arrows (↑) indicate time points for injection of vehicle (V′), indirect (KCl′) and direct (KCl) solutions. (A) Representative traces from over 100 signals that were identified as neuronal in origin due to their response to direct KCl solution. (B) Representative traces from 40 astrocytes that were identified by no sustained response to direct KCl solution. These signals were processed to extract the number of events that were greater than 0.5 normalised fluorescence units (NFU).
**Video S1**: Recording of calcium imaging during KCl' application to the Right culture chamber. The recording covers 100s of the experiment, at an increased frame rate; starting near the end of the vehicle treatment and finishing shortly after KCl' treatment. An abrupt activation of cells in the Right culture chamber is visible, at 3 s after the start of the video, coinciding with the KCl' application. Magnified views of two groups of cells (a and b) in the Left culture chamber show an immediate response to stimulation in the Right culture chamber.