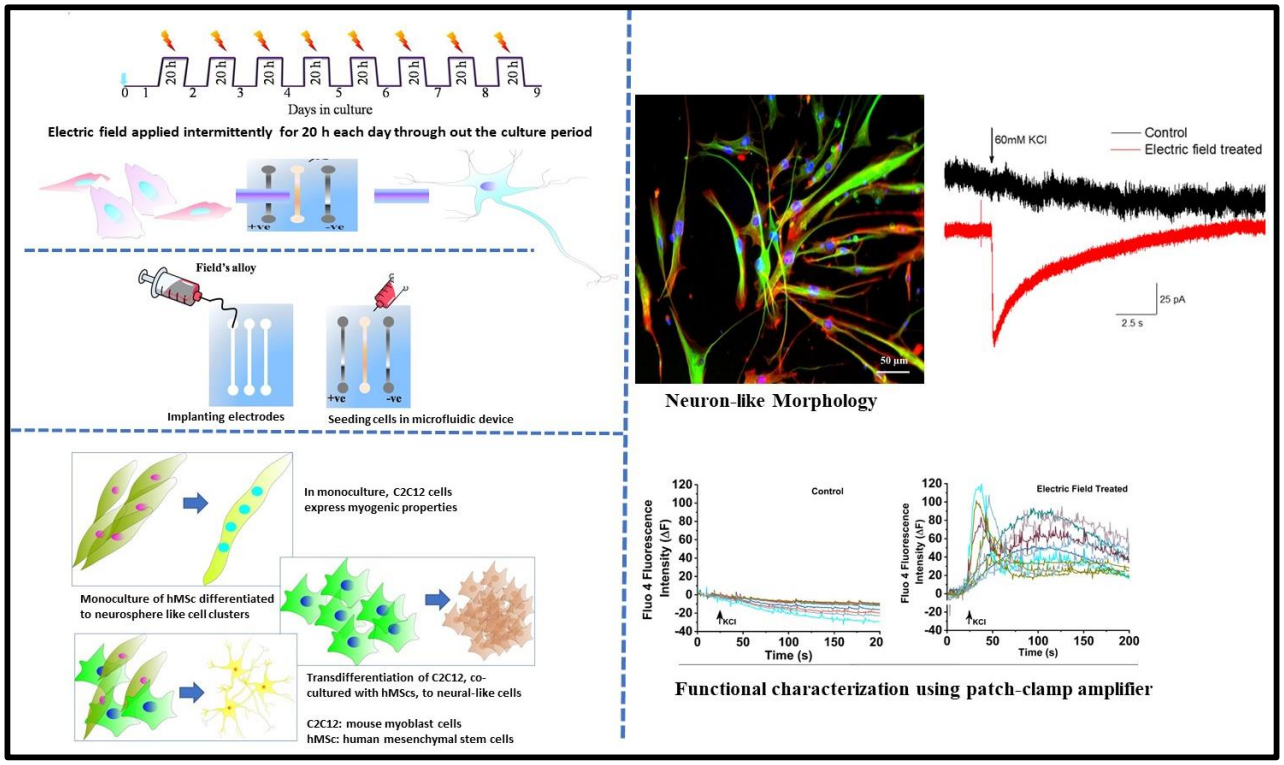
Sharmistha Naskar, Viswanathan Kumaran, Yogananda S. Markandeya, Bhupesh Mehta, Bikramjit Basu, Neurogenesis-on-Chip: Electric field modulated transdifferentiation of human mesenchymal stem cell and mouse muscle precursor cell coculture; **Biomaterials** 226 (2020)119522.

Graphical Summary:



Significance/Impact:

This paper reveals one of the unexpected discoveries that the tailored intermittent delivery of electrical stimuli can drive the neurogenesis, i.e., differentiation to electrophysiologically functional neuron-like cells, when bone marrow-derived stem cells are co-cultured with muscle cells in custom-designed biomicrofluidic devices. Together with neuroscientists, this study addresses one of the unexplored domains of transdifferentiation, wherein we convincingly demonstrate the critical role of intermittent delivery of electric stimuli using in-built electrodes integrated with the device.