

MICROELECTRODES SURFACE MODIFIED WITH DISPERSED SINGLE WALLED CARBON NANOTUBES FOR NEURONAL APPLICATIONS

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The present work examines the feasibility of a simple method for using Single-Walled Carbon Nanotubes (SWNT) to fabricate multielectrode arrays (MEA) for electrophysiological recordings. A suspension of purified SWNTs produced by arc discharged was directly deposited onto standard platinum electrodes. The *in-vitro* impedance and electrochemical characterizations demonstrated the enhanced electrical properties of the SWNT microelectrode array. To test its functionality we performed extracellular ganglion cell recordings in isolated superfused rabbit retinas. Our results showed that SWNT based electrode arrays have potential advantages over metal electrodes and can be successfully used to record single and multi-unit activity from ganglion cell populations.