

Magnetoelectric Nanoparticles

Electrostimulation is regarded pivotal to promote repair of **nerve injury**, however, failed to get extensive application **in vivo** due to the challenges in noninvasive electrical loading accompanying with construction of biomimetic cell niche.

Zhang et al. demonstrated a new concept of magneto responsive electric 3D matrix for remote and **wireless** Electrostimulation. By the preparation of magnetoelectric core/shell structured Fe₃O₄@BaTiO₃ NPs-loaded hyaluronan/collagen **hydrogels**, which recapitulate considerable magneto-electricity and vital features of native neural **extracellular matrix**, the enhancement of **neurogenesis** both in cellular level and **spinal cord injury** in vivo with external pulsed magnetic field applied is proved. The findings pave the way for a novel class of remote controlling and delivering electricity through extracellular niches-mimicked hydrogel network, arising prospects not only in **neurogenesis** but also in human-computer interaction with higher resolution ¹⁾.

¹⁾

Zhang Y, Chen S, Xiao Z, Liu X, Wu C, Wu K, Liu A, Wei D, Sun J, Zhou L, Fan H. Magnetoelectric Nanoparticles Incorporated Biomimetic Matrix for Wireless Electrostimulation and Nerve Regeneration. Adv Healthc Mater. 2021 Jun 27:e2100695. doi: 10.1002/adhm.202100695. Epub ahead of print. PMID: 34176235.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=magnetoelectric_nanoparticles

Last update: **2024/06/07 02:50**

