Near-Infrared Fluorescence Imaging in Biomedicine

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Editor's note: Near-infrared (NIR) light (700-1700 nm) is beneficial in biomedical research for deep tissue imaging and therapy, with minimal scattering and phototoxicity. Advances in nanomaterials enable localized therapeutic effects, but many technologies are still in pre-clinical stages due to challenges like immune interactions. This review by Pothal et al. covers NIR principles, materials designs, applications in cancer theranostics, neuroregeneration, and biosensing, and strategies for improved safety in NIR nanomedicine.

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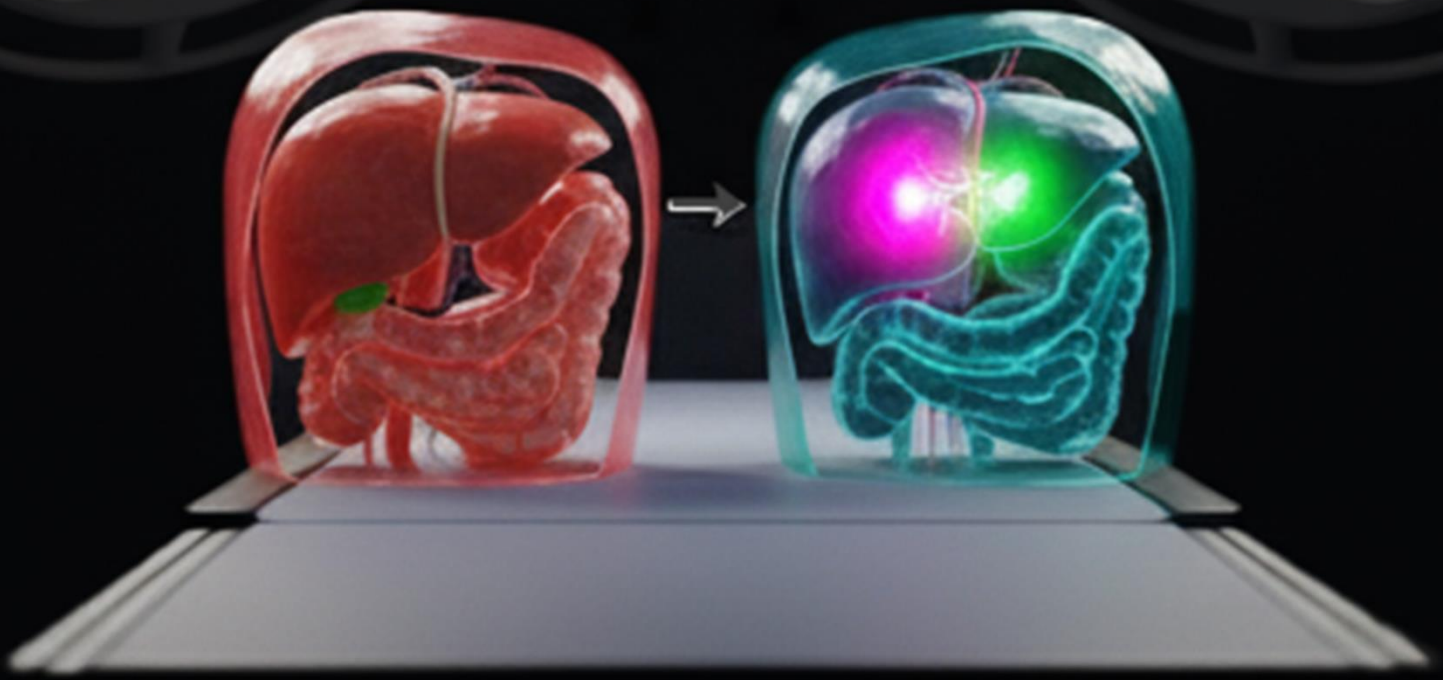

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