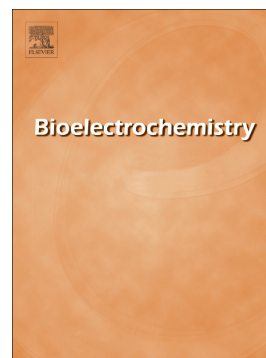


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Challenges for successful implantation of biofuel cells

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Abstract

There is a growing interest in the design and engineering of operational biofuel cells that can be implanted. This review highlights the recent progress in the electrochemistry of biofuel cell technologies, but with a particular emphasis on the medical and physiological aspects that impact the biocompatibility of biofuel cells operating inside a living body. We discuss the challenge of supplying power to implantable medical devices, with regard to the limitations of lithium battery technology and why implantable biofuel cells can be a promising alternative to provide the levels of power required for medical devices. In addition to the challenge of designing a biofuel cell that provides a stable level of sufficient power, the review highlights the biocompatibility and biofouling problems of implanting a biofuel cell that have a major

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