

Future MP3 players may eat sugar to recharge

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(PhysOrg.com) -- Just as humans scoff sugary food to keep energised, so might your future iPod to charge its "bio-battery".

A new biofuel cell made by Japanese scientists uses enzymes to break down sugars and produce enough power to run small electronic devices, reports the Royal Society of Chemistry journal *Energy & Environmental Science*.

Four of these cells stacked together produced a power of 100 milliwatts – enough to power an MP3 player with speakers, or a miniature remote controlled car.

Energy outputs from biofuel cells have been too low for practical applications until now. By using a "mediator" chemical to speed electron transfer, and carefully designing the cathode and anode to maximise efficiency, the Sony scientists raised the power output enough for real-life applications.

Adam Heller, an expert in bioelectrochemistry from The University of Texas at Austin, US, says the research 'will give much needed impetus to the development of useful biofuel cells, after years of studies aimed at unachievable goals'.

Original article: Tsuyonobu Hatazawa et al, *Energy Environ. Sci.*, 2008
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([www.rsc.org/Publishing/Journal ... cle.asp?doi=b809841g](http://www.rsc.org/Publishing/Journal...cle.asp?doi=b809841g))

Further reading: [www.rsc.org/Publishing/ChemTec ... ered_electronics.asp](http://www.rsc.org/Publishing/ChemTec...ered_electronics.asp)

Provided by Royal Society of Chemistry

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