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ESPS Peer-review Report

Name of Journal: World Journal of Pharmacology

ESPS Manuscript NO: 8996

Title: Implantable (Bio)sensors as New Tools for Wireless Monitoring of Brain Neurochemistry in Real Time

Reviewer code: 00504526

Science editor: Xiu-Xia Song

Date sent for review: 2014-01-17 10:52

Date reviewed: 2014-03-17 22:25

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C (Good)	<input type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

This is an excellent and thorough methodological review on electrochemical microsensors and biosensors that can be used in preclinical research settings for recording neurochemical changes in the brain. Overall the manuscript is very interesting and well prepared. The manuscript could benefit from a discussion of the advantages and disadvantages of this technique in comparison with classic brain microdialysis and in-vivo voltametry.



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ESPS Peer-review Report

Name of Journal: World Journal of Pharmacology

ESPS Manuscript NO: 8996

Title: Implantable (Bio)sensors as New Tools for Wireless Monitoring of Brain Neurochemistry in Real Time

Reviewer code: 00202869

Science editor: Xiu-Xia Song

Date sent for review: 2014-01-17 10:52

Date reviewed: 2014-03-28 05:03

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input checked="" type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C (Good)	<input type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

This manuscript reviews a range of implantable sensors for online measurement of neurotransmitters, bioenergetics substrates, neuromodulators, and exogenous molecules, also discusses the telemetry systems. This manuscript is well written and insightful. I do not have any substantial criticisms. Minor issues are too many abbreviations used. I strongly suggest that the authors replace the abbreviations with the full name for all neurotransmitters throughout the manuscript, in order to improve the readability. Another minor issue is that the stabilizer PEI is a polymer, not an enzyme (in the end of Section glucose and lactate).



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ESPS Peer-review Report

Name of Journal: World Journal of Pharmacology

ESPS Manuscript NO: 8996

Title: Implantable (Bio)sensors as New Tools for Wireless Monitoring of Brain Neurochemistry in Real Time

Reviewer code: 00502766

Science editor: Xiu-Xia Song

Date sent for review: 2014-01-17 10:52

Date reviewed: 2014-04-03 15:53

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C (Good)	<input checked="" type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
<input checked="" type="checkbox"/> Grade D (Fair)		BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)	<input type="checkbox"/> Grade D: rejected	<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

This is an interesting topic. However, I do not know why the authors submitted a rough draft, not the final version. Thus I cannot read the manuscript. Please ask the authors to submit the final version again.



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ESPS Peer-review Report

Name of Journal: World Journal of Pharmacology

ESPS Manuscript NO: 8996

Title: Implantable (Bio)sensors as New Tools for Wireless Monitoring of Brain Neurochemistry in Real Time

Reviewer code: 00225292

Science editor: Xiu-Xia Song

Date sent for review: 2014-01-17 10:52

Date reviewed: 2014-04-06 02:31

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input checked="" type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input checked="" type="checkbox"/> Accept
<input checked="" type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
<input type="checkbox"/> Grade C (Good)	<input type="checkbox"/> Grade C: a great deal of language polishing	<input type="checkbox"/> No records	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D (Fair)	<input type="checkbox"/> Grade D: rejected	BPG Search:	<input type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

The Contribution of the paper is Significant and the Quality is Good.



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ESPS Peer-review Report

Name of Journal: World Journal of Pharmacology

ESPS Manuscript NO: 8996

Title: Implantable (Bio)sensors as New Tools for Wireless Monitoring of Brain Neurochemistry in Real Time

Reviewer code: 00060492

Science editor: Xiu-Xia Song

Date sent for review: 2014-01-17 10:52

Date reviewed: 2014-04-07 10:06

CLASSIFICATION	LANGUAGE EVALUATION	RECOMMENDATION	CONCLUSION
<input type="checkbox"/> Grade A (Excellent)	<input type="checkbox"/> Grade A: Priority Publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B (Very good)	<input type="checkbox"/> Grade B: minor language polishing	<input type="checkbox"/> Existed	<input type="checkbox"/> High priority for publication
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<input type="checkbox"/> Grade E (Poor)		<input type="checkbox"/> Existed	<input type="checkbox"/> Major revision
		<input type="checkbox"/> No records	

COMMENTS TO AUTHORS

This is an interesting paper. Unfortunately, there is a lot of wandering between brain chemistry, clinical diseases, electrodes (bare metal versus carbon fiber), voltammetry, amperometry, and interference protection (shielding polymers, etc). It is difficult to tell whether the authors are trying to sell the utility of biosensors, explain physiology, tell the reader what type of biosensor is best or merely provide a chemistry lesson. Minor suggestions: 1. In the abstract the phrase "most represented biometric technologies" is awkward. Do you mean the most relevant or common biometric technologies? 2. In the introduction, the phrase "ideas on the basis" is redundant. 3. Please make sure when you describe a dimension that it is always clear whether you mean length, width or diameter. 4. Under Dopamine, Norepinephrine, and Serotonin: Norepinephrine also increases cardiac contractility and causes vasoconstriction. 5. Under Acetylcholine, the sentence: "In the last years, the application of biosensors is significantly increased because these devices are cheap, fast, and easy to use and are able to provide real-time qualitative and quantitative information about the composition of a sample.[53]" belongs in the introduction of the paper. 6. Under Oxygen and Nitric Oxide, what do you mean by "less surface poisoning?" 7. Under Ethanol, the spelling "ethaol" needs correction and the word "relapsing" is used incorrectly. Major suggestions: 1. If you use a format based on detection of neurotransmitters and other substances, divide discussion of each substance into subsections such as physiology, relation to clinical diseases, and detection methods. 2. Explain the advantages and disadvantages of differing electrodes in a new section near the beginning of the paper. 3. Minimally, you need to explain the differences between voltammetry



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and amperometry (oxidation). Ideally you should explain the concepts behind “electrochemical techniques such as constant potential amperometry (CPA),[21] chronoamperometry,[22,23] differential pulse voltammetry,[24] and fast-scan cyclic voltammetry (FSCV).[8, 25-27]” 4. It seems uncertain whether most readers will benefit from the chemical equations. Consider deleting them.