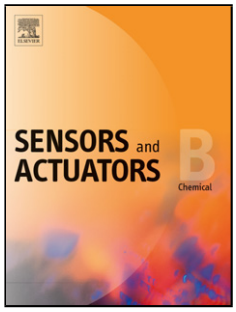

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PII: S0925-4005(18)31406-0
DOI: https://doi.org/10.1016/j.snb.2018.07.157
Reference: SNB 25126

To appear in: *Sensors and Actuators B*

Received date: 16-2-2018
Revised date: 22-5-2018
Accepted date: 30-7-2018

Please cite this article as: M. Obeidat Y, J. Evans A, Tedjo W, J. Chicco A, Carnevale E, W. Chen T, Monitoring Oocyte/Embryo Respiration Using Electrochemical-Based Oxygen Sensors, *Sensors and amp; Actuators: B. Chemical* (2018), https://doi.org/10.1016/j.snb.2018.07.157

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Monitoring Oocyte/Embryo Respiration Using Electrochemical-Based Oxygen Sensors

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Highlights

- A three-electrode, Clark-type biosensor suitable for mitochondrial respirometry in single oocytes and embryos is presented.
- The sensor measured basal cell respiration supported by endogenous substrates, respiration associated with proton leak induced by inhibition of the ATP synthase with oligomycin, and the maximal non-coupled respiratory capacity revealed by FCCP titration.
- The results demonstrate that the sensor system can be effectively used to analyze mitochondrial function in oocytes to better determine the quality and viability of their development into the blastocyst phase and eventually into embryos.

Abstract