

Physiological Characterization of Purinergic Signalling in Mouse Seminiferous Tubules Using an ATP Biosensor

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Purinergic signaling mechanisms mediate important physiological processes within the seminiferous tubules. However, detecting release of purinergic signals such as ATP has been challenging due to several technological limitations of available approaches. Here, we investigate purinergic signalling processes in mouse seminiferous tubules. Using the novel ATP biosensor cATP1.0, we monitor extracellular ATP release in intact whole-mount preparations of mouse testis. Live-cell recordings in a custom-designed *ex vivo* imaging chamber enable observation of local ATP release and ATP-dependant signals in defined areas of the seminiferous tubules. Ongoing analysis aims to identify potential correlations between ATP release and tubule contractions. Together, our results will enhance our understanding of testicular purinergic signalling and provide further insights into male reproductive physiology.