

## **Microfluidics, Sensors, and Metabolomics: Can These Tools Aid Evaluation of Transplantable Islets?**

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We have developed several techniques for studying islet function that may have relevance to evaluating the potency of islets used in transplants.

These tools include: a) a microfluidic chip for monitoring insulin and glucagon secretion from islets in real time; b) sensors for detecting glucose and oxygen consumption in islets; and c) metabolomic methods for analyzing islets. These tools have been developed primarily to aid in studies of normal and diabetic islets; however, their rapid analysis and high information content may prove valuable for evaluating islets used in transplant. We will describe these methods and demonstrate applications to study of islets.