

S. TAKEUCHI LAB.

When Skin Glows, Health Shows



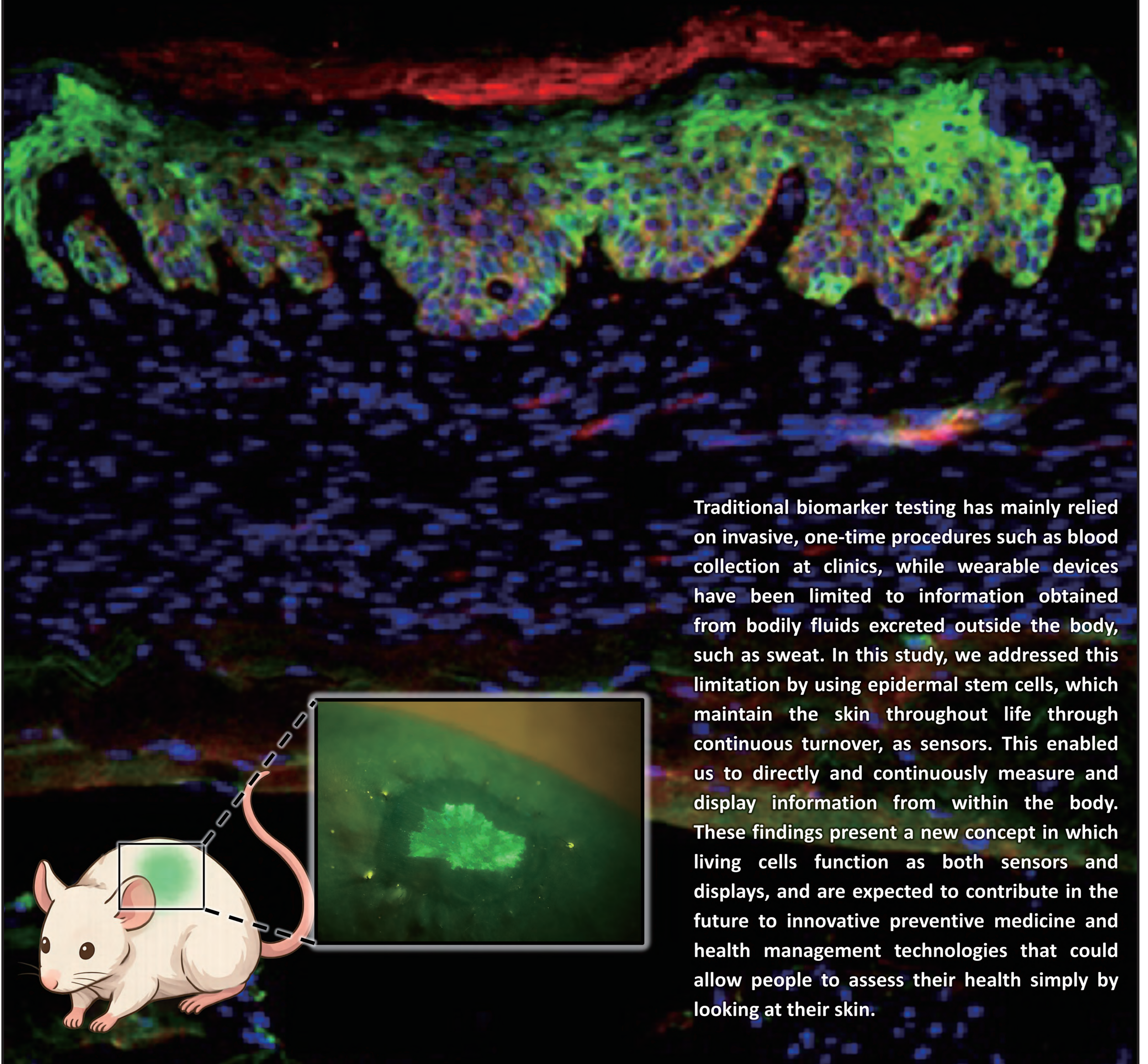
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MEMS, Biotechnology, Tissue engineering

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Living Sensor Display



Traditional biomarker testing has mainly relied on invasive, one-time procedures such as blood collection at clinics, while wearable devices have been limited to information obtained from bodily fluids excreted outside the body, such as sweat. In this study, we addressed this limitation by using epidermal stem cells, which maintain the skin throughout life through continuous turnover, as sensors. This enabled us to directly and continuously measure and display information from within the body. These findings present a new concept in which living cells function as both sensors and displays, and are expected to contribute in the future to innovative preventive medicine and health management technologies that could allow people to assess their health simply by looking at their skin.