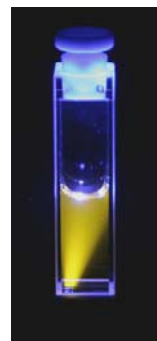
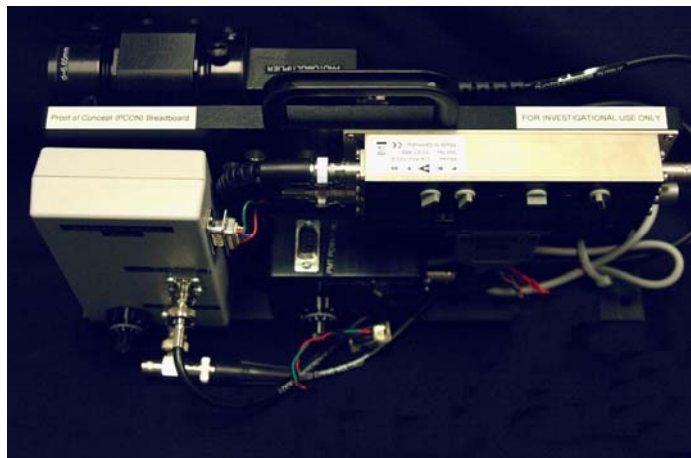


CASE HISTORY 26

In-Vivo Fluorescence Based Sensor



Market

Critical Care

Client Type

Very large medical device OEM (confidential)

Unmet Need

A transcutaneous sensor for assessing a (confidential) vital function

Approach

Starting with the client's fluorophore and 8-foot long optical bench full of equipment, we performed opto-chemical benchmarking, established key performance criteria, translated these criteria into engineering specifications, re-engineered the system to shrink the system from a large optical table to the size of a small briefcase (see image above), developed more compact optical probes to connect the instrument to the subject, performed bench testing, supported design verification testing on small animals, and developed a proposal for the fabrication of 10 systems for human testing.

Product Features

The client's compound yields extremely strong fluorescence (see image above) and is in a class of compounds that will likely pass pharmaceutical testing in humans. The instrument under development will ultimately become a point of care device in critical care and screening settings. It will be comprised of a tabletop or pole-mounted console with a disposable probe in a finger-clip or skin patch configuration. Measurements will be nearly instantaneous.

Services Provided by OTI

- Fluorophore characterization
- Product specification
- Probe design, including excitation and detection optimization
- Electronic engineering
- Optical/opto-mechanical engineering
- Verification bench testing
- Support of small animal testing

Client Comment

"OTI did a great job. I will need them – and plan to use them – to get this device to the next stage of commercialization".

-- (confidential), Director of Product Development

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