# MediBeacon®

**PRECLINICAL**

## Transdermal, Continuous, Measurement of Renal Function

Transdermal measurement of Glomerular Filtration Rate (mGFR) is the state of the art in preclinical research. MediBeacon's system allows calculation and tracking of an animal's kidney function over time without requiring the animal to be restrained during monitoring.

Determination and monitoring of mGFR is essential for various preclinical studies, e.g. characterization of renal function, assessment of new and existing kidney therapeutics, evaluation of nephrotoxicity, screening of novel chemical or medical agents, and fundamental understanding of kidney function.

Historically, the research standard for measuring renal function has required several blood draws as a function of time and subsequent sophisticated laboratory analysis to measure tracer agent concentrations in each blood sample. This methodology using blood and/or urine sampling is labor-intensive, and multiple blood draws put a strain on the animal.

Utilization of the MediBeacon device and a fluorescent tracer agent is independent of blood sampling, urine collection, and laboratory assays and thus enables streamlined preclinical trial design and execution.

To obtain a quote for the Transdermal Mini GFR Monitor contact **sales@medibeacon.com.**

## Successful Use in Nephrology Research

MediBeacon technology is used by leading medical schools, academic centers, research institutes, contract research organizations and pharmaceutical companies worldwide to enhance preclinical assessment of kidney therapeutics, evaluate nephrotoxicity, and gain fundamental understanding of kidney function in animals.

Research using the MediBeacon preclinical product has been featured at scientific meetings worldwide. There are over **150 peer reviewed publications and conference abstracts** in which this transdermal mGFR technique has been used.

For the latest research references see **www.medibeacon.com/preclinical/publications/.**

## Key Advantages*

- **Longitudinal GFR measurements in the same animal are possible.**
- **System can be used in conscious, freely-moving mice, rats, and larger animals.**
- **Changes of GFR can be observed earlier compared to endogenous markers.**
- **Streamlined specimen-free trial design and execution are the result.**

**Similar to the system currently in human clinical studies.*

## System

- **Device and patch are affixed to animal.**
- **Fluorescent tracer agent is administered.[a][b]**
- **Software analyzes data from the device.**

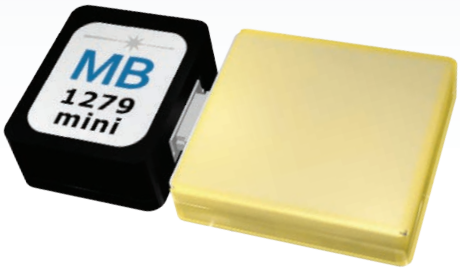
*(a) NOT FOR HUMAN USE*
*(b) The Fluorescent tracer agent is administered IV into the animal.*


**This device is not approved for human use.**

**For inquiries contact:** +1 (314) 269-5808 | info@medibeacon.com

## Optimized Design*

- Over 50% Smaller Device
- Adjustable Sampling Rate
- Robust Battery Interface
- Reduced Motion Artifacts
- Enhanced Data Precision
- Supports Mac or PC




**Comparison is to previous version of the Transdermal GFR Monitor.*

## Preclinical Device – Technical Specifications

The instrument contains light emitting diodes which excite the fluorescent tracer agent and a photodiode that collects the light emission.

After amplification and digitization, the data sets are subsequently stored in the internal memory of the device. The data is transferred to a PC or Mac via USB connection. For each transfer, an additional MediBeacon Measurement Code must be acquired separately in order to enable a data transfer. A basic software package is provided with the device. An advanced evaluation software product (Preclinical Data Studio) is sold separately.

Measurement kits which include the necessary disposables required for use of the Transdermal Mini GFR Monitor are sold separately (also available with Measurement Codes).[(a)(b)]

*(a) NOT FOR HUMAN USE*
*(b) For information regarding compatible fluorescent tracer agents contact us at sales@medibeacon.com.*


## About MediBeacon

MediBeacon's mission is to commercialize biocompatible optical diagnostic agents for physiological monitoring, surgical guidance, and imaging of pathological disease. Several product concepts in these arenas are contained in the MediBeacon Intellectual Property estate. MediBeacon's portfolio includes a renal function system that uses an optical skin sensor with a proprietary fluorescent tracer agent that glows in the presence of light. Clinical studies in subjects with normal and impaired kidney function are ongoing. The goal is to provide a point of care Transdermal GFR measurement system.

The company's miniature transdermal GFR monitors for the preclinical market enable detection of a GFR fluorescent tracer agent and hence, the determination of kidney function. MediBeacon products for preclinical animal research provide an efficient and proven methodology through which researchers can measure and track kidney function over time.


**MediBeacon Clinical Study Transdermal GFR Measurement System**

**Tracer agents and devices are not approved for human use.**

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*Fluorescent Tracer Agents Enabling Medical Innovations™*