Bio-RFID™ Internal Validation and Comparison to FDA-Cleared Glucose Monitoring Devices

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Testing of Bio-RFID technology in human subjects shows it can successfully measure blood glucose levels non-invasively and continuously.

Know Labs’ family of products can be an accurate and cost-effective alternative to the current FDA-approved glucose monitoring devices.

Know Labs’ R&D team will soon kick-off in vivo external validation of the glucose monitoring technology with world renowned research organization.
Our Vision

Transform medical diagnostics and launch first truly non-invasive FDA approved blood glucose monitoring device.

Offer medical-grade and cost-effective solutions for people with type 1 and type 2 diabetes, people with pre-diabetes, and people with no diabetes but interested in monitoring their blood glucose levels.

Following FDA clearance of the glucose monitoring devices, expand Bio-RFID to other potential medical diagnostic applications, including detecting and measuring levels of ketones, alcohol, metabolized drugs or other substances in the body.
KNOW LABS’ PATENTED, PROPRIETARY NON-INVASIVE DIAGNOSTIC TECHNOLOGY PLATFORM THAT USES RADIO WAVES TO IDENTIFY AND MEASURE WHAT IS GOING ON INSIDE YOUR BODY

- Non-invasive
- 57 patents issued and pending
- Identifies and monitors biomolecules in the body
- Myriad of applications, beyond glucose
KnowU™ and UBand™

KNOW LABS’ SOLUTIONS TO NON-INVASIVE GLUCOSE MONITORING

- Bio-RFID technology
- Completely non-invasive
- No finger sticks or needles
- No filaments, transmitters or other supplies
- Real-time readings
- Smartphone app
- Estimated cost <$1K/year  
  (compared to $1 to >$5k for current alternative products)
Internal Scientific Validation with Human Subjects

**PRIMARY OBJECTIVE**

Compare Bio-RFID accuracy to glucose monitoring devices that have been cleared by the FDA and collect data to further train Know Labs’ AI-based algorithm.

**PROTOCOL**

Human subjects fasting at experiment start place their arm on a Know Labs prototype Bio-RFID sensor and their blood glucose levels are measured every 5 minutes. Concurrent readings are performed with finger stick and CGM devices.

After thirty (30) minutes of baseline measurements, each subject orally consumes a liquid dose of 30 grams of glucose. The subjects then have their blood glucose level monitored as above for an additional hour and a half period.
## FDA-Approved Devices Selected for Comparison

<table>
<thead>
<tr>
<th>Device</th>
<th>Type</th>
<th>Minimally Invasive</th>
<th>Average Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott FreeStyle® Libre</td>
<td>Continuous</td>
<td>Minimally Invasive</td>
<td>&gt;$1.5k</td>
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<tr>
<td></td>
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<tr>
<td>Accu-Chek® Fingerstick</td>
<td>Spot-check</td>
<td></td>
<td>&gt;$1.5k (at least 3 tests/day)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Dexcom G6®</td>
<td>Continuous</td>
<td>Minimally Invasive</td>
<td>&gt;$5k</td>
</tr>
</tbody>
</table>

Source: US Endocrinology – Touch Endocrinology (April 2, 2020), Healthline G6 Review (article)
Bio-RFID™ vs. Accu-Chek® Fingerstick

AUG-11, 2021; KNOW LABS R&D LABORATORY, SUBJECT #1

Blood Glucose Level mg/dL

Accuracy Standards [± 15 mg/dL]
Bio-RFID™ vs. FreeStyle® Libre 14-day

AUG-11, 2021; KNOW LABS R&D LABORATORY, SUBJECT #2

Blood Glucose Level (mg/dL) vs. Time

- Blue line: Bio-RFID
- Red line: FreeStyle
- Pink shaded area: Accuracy Standards (+/- 15 mg/dL)
Bio-RFID™ vs. Dexcom® G6

AUG-11, 2021; KNOW LABS R&D LABORATORY, SUBJECT #3

Accuracy Standards [± 15 mg/dL]
Test Results - Summary

MARD [%] = Mean Absolute Relative Difference, Bio-RFID vs. Reference Device; lower is better

Bio-RFID vs. Finger Stick
- 94% within +/- 15%
- 94% within +/- 10%
- 100% within +/- 20%

Bio-RFID vs. Free Style
- 100% within +/- 20%
- 98% within +/- 15%
- 100% within +/- 20%

Bio-RFID vs. Dexcom G6
- 100% within +/- 20%
- 100% within +/- 15%
- 100% within +/- 20%

Average Bio-RFID MARD
- 6.7%
- 5.4%
- 5.3%
Bio-RFID Expected Path-to-Market

Know Labs conducted hundreds of internal tests validating the Bio-RFID technology and comparing its accuracy to other FDA approved devices.

Completed in vitro validation with world renowned academic medical center. 

In vivo external validation of Bio-RFID glucose monitoring technology to be kicked off soon.

FDA multi-site clinical trials and application submitted.

FDA clearance.

Product manufacturing and commercialization.
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