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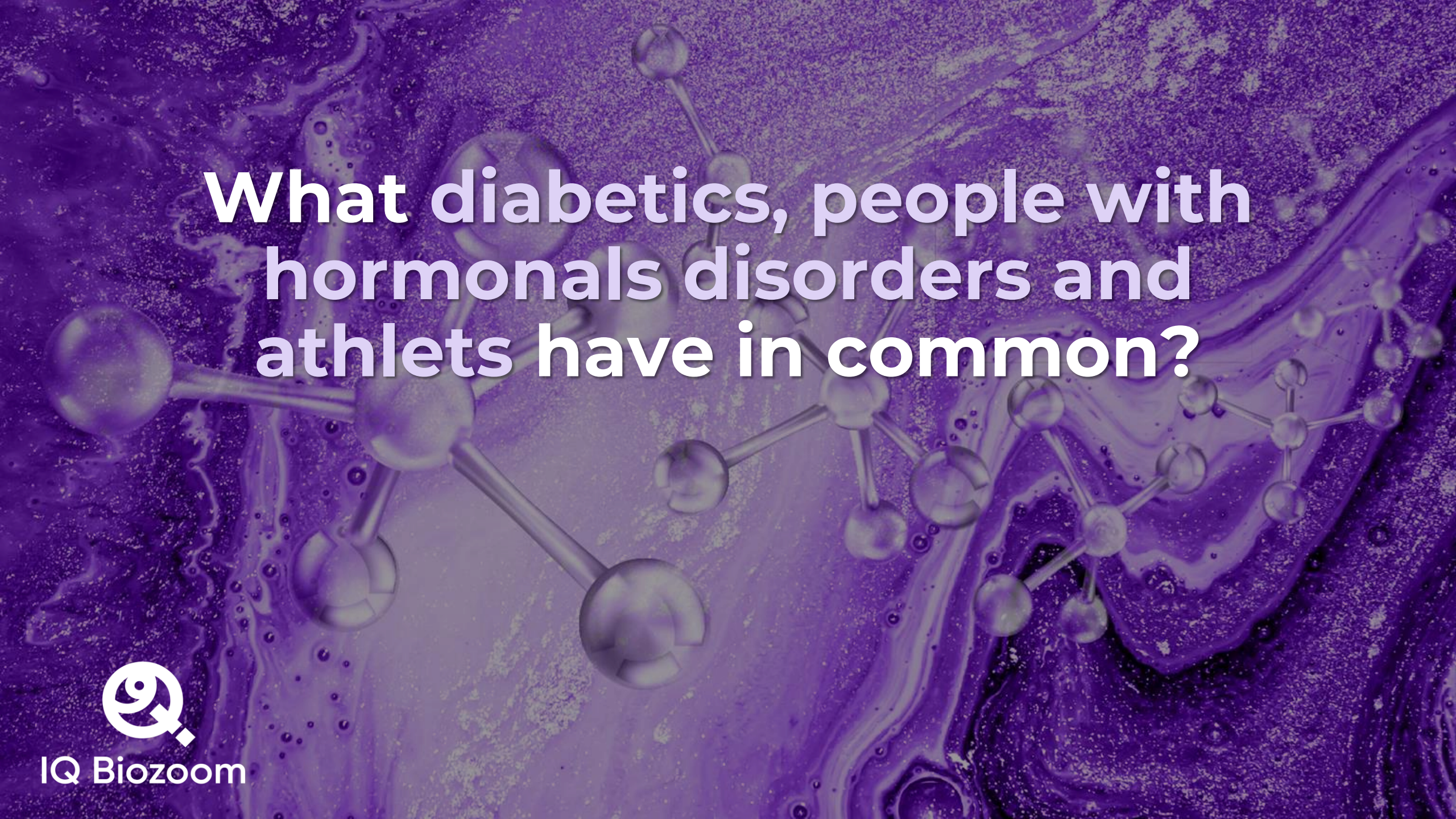
NON-INVASIVE HOME DIAGNOSTICS


What diabetics, people with hormonals disorders and athlets have in common?
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THE NEED FOR REGULAR
MONITORING OF SELECTED
BIOMARKERS IN THE BODY
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84% DIABETICS WANT NON-INVASIVE MONITORING OF THE LEVEL OF GLUCOSE
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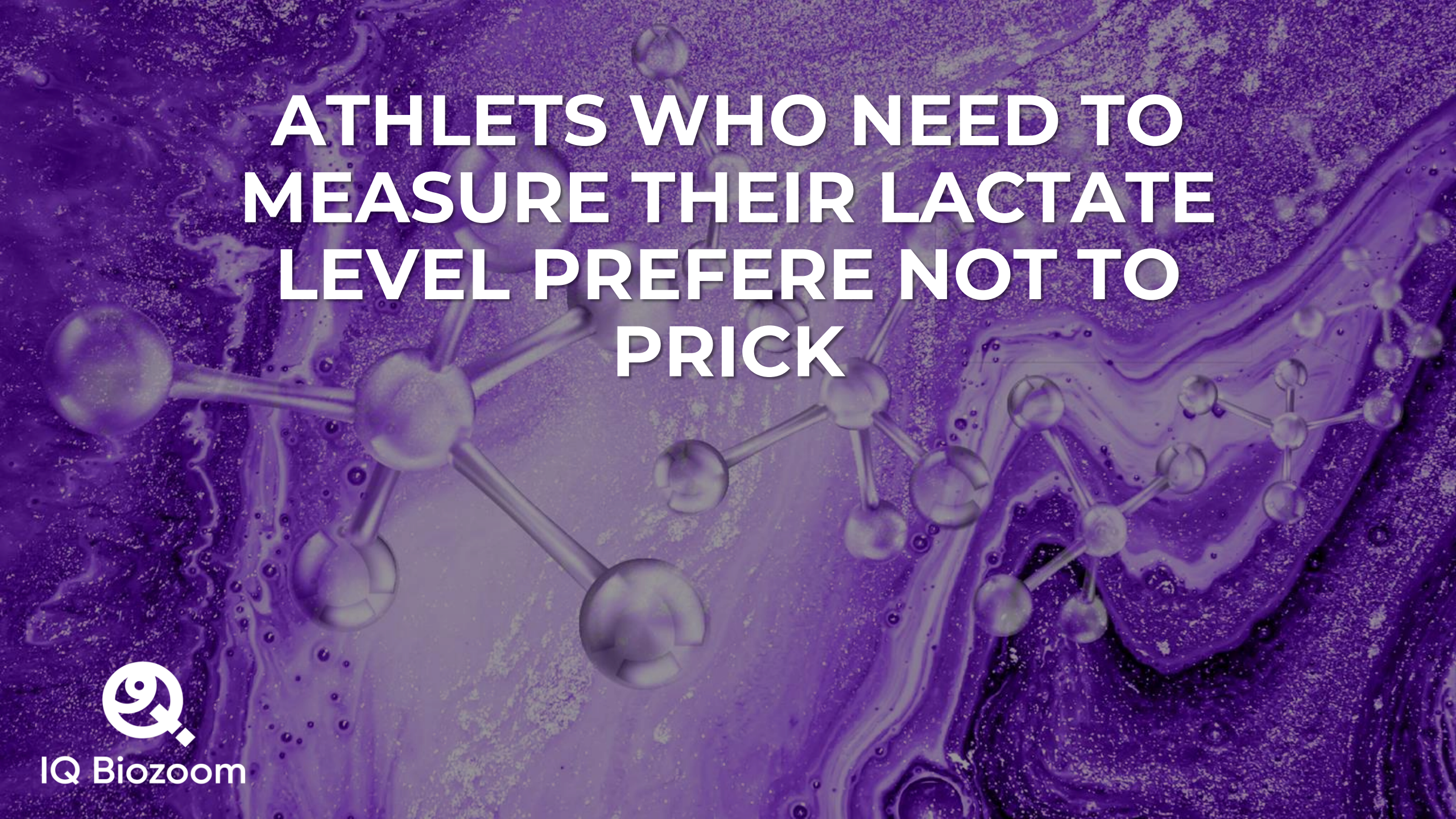
ATHLETS WHO NEED TO MEASURE THEIR LACTATE LEVEL PREFERE NOT TO PRICK
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PEOPLE WITH HORMONAL DISORDERS AVOID FREQUENT VISITS TO DIAGNOSTICS AND CARE POINTS
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MILLIONS OF PEOPLE NEED RELIABLE MONITORING & SELF-TESTING OF SELECTED BIOMARKERS

IQ BIOZOOM DEVELOPS BIOSENSING TECHNOLOGY FOR NON-INVASIVE REAL-TIME DIAGNOSTICS TESTS

New era of self-testing

IQ BIOZOOM WILL ENABLE DEFINING EXACT LEVELS OF BIOMARKERS IN BODY FLUIDS. LIKE PROFESIONAL CLINICAL DIAGNOSTICS LABS.

STATE OF ART:

CURRENT HOME-TESTS GIVE INFO ONLY ABOUT PRESENSE OR ABSENCE OF BIOMARKER. OR INDICATES AN IMPRECISE RANGE.

REVOLUTION:

IQ BIOZOOM PLAN TO DEFINES THE EXACT CONCENTRATION LEVEL OF THE BIOMARKERS IN BODY FLUIDS! WHEREVERE YOU ARE. IN REAL-TIME.

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Flexibility of out technology

IQ BIOZOOM IS A MATRIX TECHNOLOGY. WE PLAN TO MEASURE DIFFERENT BIOMARKERS IN BODY FLUIDS

BIOMARKER

GLUCOSE (proofed)
LACTATE (proofed)
THYROID HORMONES
CORTISOL
TESTOSTERONE
ESTRADIOL
PROLACTINE
DHEA
INSULINE
TUMOR BIOMARKERS
AND...

BODY FLUID

SALIVA
TEARS
SWEAT
CERVICAL MUCUS
BLOOD
UREA

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THE TECHNOLOGY BEHIND THE DEVICE

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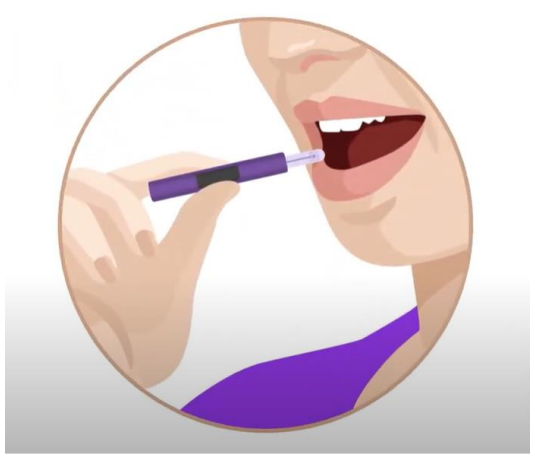
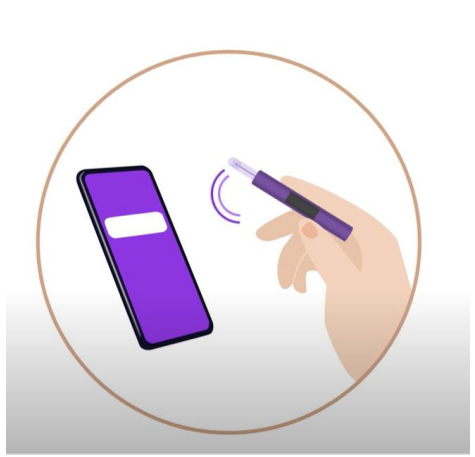
HOW IT WORKS?

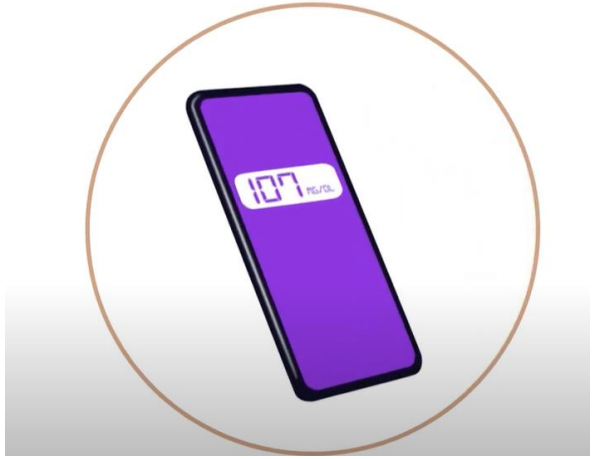
The idea of a product is based on a strip test and a pen-like device



Bring the strip in contact with saliva



The measurement result appears in the display. The device sends the result via Bluetooth to the app in real-time.



You may analyze the results and compare historic biomarker levels, as well as correlations between different biomarkers measured.

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ONE DEVICE, MANY KINDS

With one device, you can accurately measure the biomarker you need: e.g. various steroid hormones, glucose, lactate.

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Affordable, accurate and simple

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- **No cleanroom needed:** room temperature chemical processes
- **Simple and affordable** – no expansive elements in device. As an assuption - inexpansive ways of manufacturing.
- **High throughput technology:** easy to scale by roll-to-roll processes
- **High accuracy:** exact concentration of biomarkers in body fluids. At home! For glucose - one order of magnitude higher than state of the art.

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Our biosensors are extremely sensitive

For glucose - one order of magnitude higher sensitivity than state-of-the-art devices

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Novel transistor-based sensor leverages enzymes

Japanese Journal of Applied Physics **58**, 090603 (2019)
https://doi.org/10.7567/1347-4065/ab1a65

STAP ARTICLE
Metal oxide semiconductor thin-films and related devices

IGZO MESFET with enzyme-modified Schottky gate electrode for glucose sensing

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We describe the development of a glucose sensor through the immobilization of an enzyme (glucose oxidase) into the gate of an In–Ga–Zn–O thin film transistor in a MESFET configuration with Ru–Si–O acting as a Schottky gate electrode. A change in the gate potential, due to a different glucose concentration in the buffer solution causes a change in the width of the depletion region, hence modulating the current in the channel layer. The glucose sensing mechanism of the presented MESFET structure is discussed using energy band diagrams The sensitivity of the fabricated IGZO MESFET biosensor evaluated from the slope of the linear ranges: from 0 to 2 mmol l^{-1} and from 2 to 10 mmol l^{-1}, which cover blood, salivary, sudoriferous and lachrymal glucose concentration in humans, equal: 2.23 μA $mmol^{-1}$ l^{-1} and 0.41 μA $mmol^{-1}$ l^{-1}, respectively.

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Established partnerships

NHS Cambridge University Hospitals NHS Foundation Trust

Szpital Bielański

GDAŃSKI UNIWERSYTET MEDYCZNY

UNIWERSYTECKI SZPITAL KLINICZNY im. Jana Mikulicza-Radeckiego WE WROCŁAWIU

UNIVERSITY OF CAMBRIDGE

KUT 高知工科大学 KOCHI UNIVERSITY OF TECHNOLOGY

UNIVERSITY OF SURREY

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OUR TECHNOLOGICAL READINESS LEVEL IS TRL 5

EPO PATENT APPLIED

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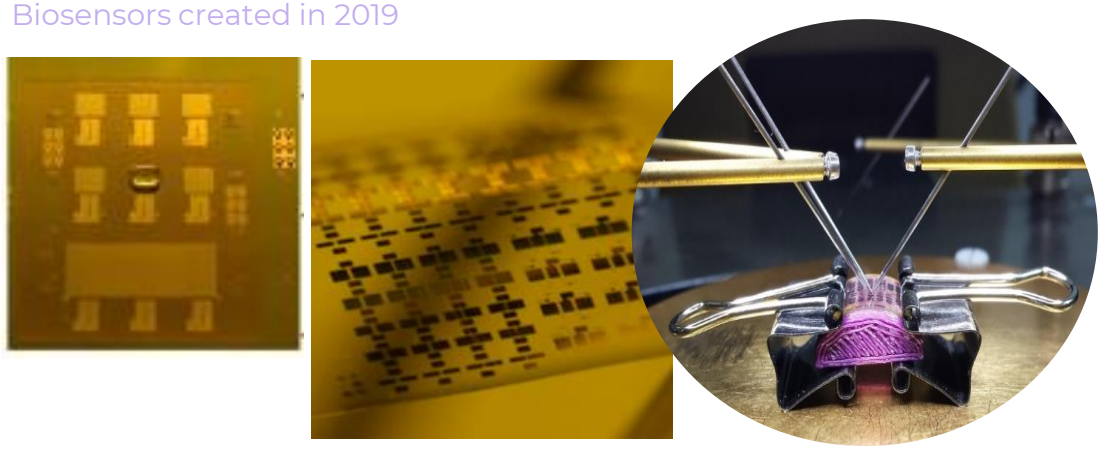
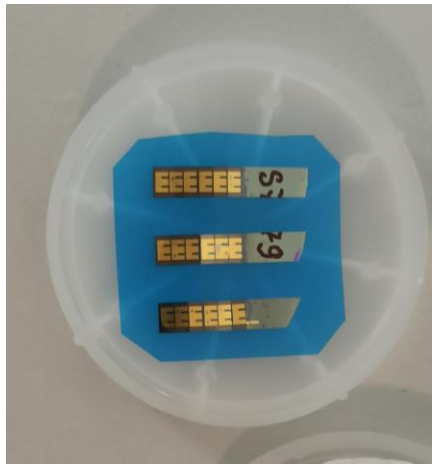
Our path and present status

Biosensors created in 2019



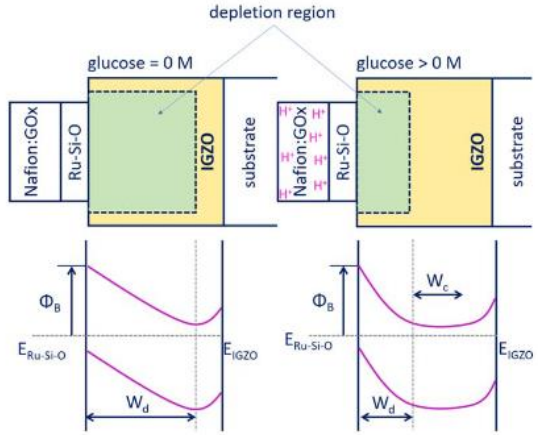
2019: PROOF-OF-CONCEPT (in laboratory): detecting glucose from saliva.



Working on the "heart" of a device - our innovative biosensor based on the proprietary thin-film transistor design, 2023

March, 2023: we are finishing the work on a first demonstrator.
Repeating glucose detection.
Proofing lactate detection.

2023: Measuring other biomarkers – why possible?
The answer is:
the electrochemistry



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WE ARE GOING TO EXPAND THE PORTFOLIO OF BIOMARKERS WE CAN MEASURE

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Types of competitors

At-home colorometric tests provide information about presense or absence only, or indicate an imprecise range.

ADVANTAGES OF IQBZ

IQBZ determines the exact concentration level of the biomarker in the analyte. Like in a lab, but... at home.

Home tests based on samples that are sent to the lab. The results are obtained over time, remotely, via a mobile app.

ADVANTAGES OF IQBZ

IQBZ gives you the exact result and its interpretation in REAL-TIME, wherever you are and whenever you need it.

Optoelectronic, non-invasive solutions for glucose monitoring are expansive and not very accurate

ADVANTAGES OF IQBZ

Devices based on IQBZ technology don't contain any expansive components. They are much more affordable to manufacture. And more accurate in defining biomarker levels.

Semi-invasive solutions for glucose monitoring require regular replacement and are not good for babies

ADVANTAGES OF IQBZ

No age restrictions. Good even for newborns.
One device is able to measure different biomarkers (more than one)
Analysis of results, trends and correlations between different biomarkers avaiable

IQ Biozoom

MARKET ADVANTAGES

- very high sensitivity and accuracy of measurements
- results with exact level of biomarker, in real-time
- technological stability
- affordability
- analysing retrospectively
- analysing correlations between biomarkers

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THE TEAM

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TEAM

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Magdalena Czarnowska
office manager

Katarzyna Kaczmarska Phd
Medical Affairs, co-founder

Krzysztof Gibasiewicz Phd
physicist

Mateusz Pawelec
***B**ussiness Development, advisor*

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Awards

MIT Enterprise Forum

Grand Prize finalist, MIT Bootcamp participant and acceleration programme

Hello Tommorrow Deep Tech Pioneers

Selected as Hello Tomorrow Deep Tech Pioneers 2022: one of the most promising startups worldwide, recognised as „being leaders unlocking the power of deep tech to solve the world's toughest challenges".

Startup Summer Camp PARP

Grand Prix for The Best Startup of Startup Summer Camp 4 by PARP.
TOP50 of the „Start Platforms" acceleration program and grant beneficiary of the Polish Agency for Enterprise Development

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Together with IQ BIOZOOM,
you can deliver better
diagnose and non-invasive
health monitoring to
millions of people

This is a visualisation of hypothetical products based on IQBZ technology in a pharmacy

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