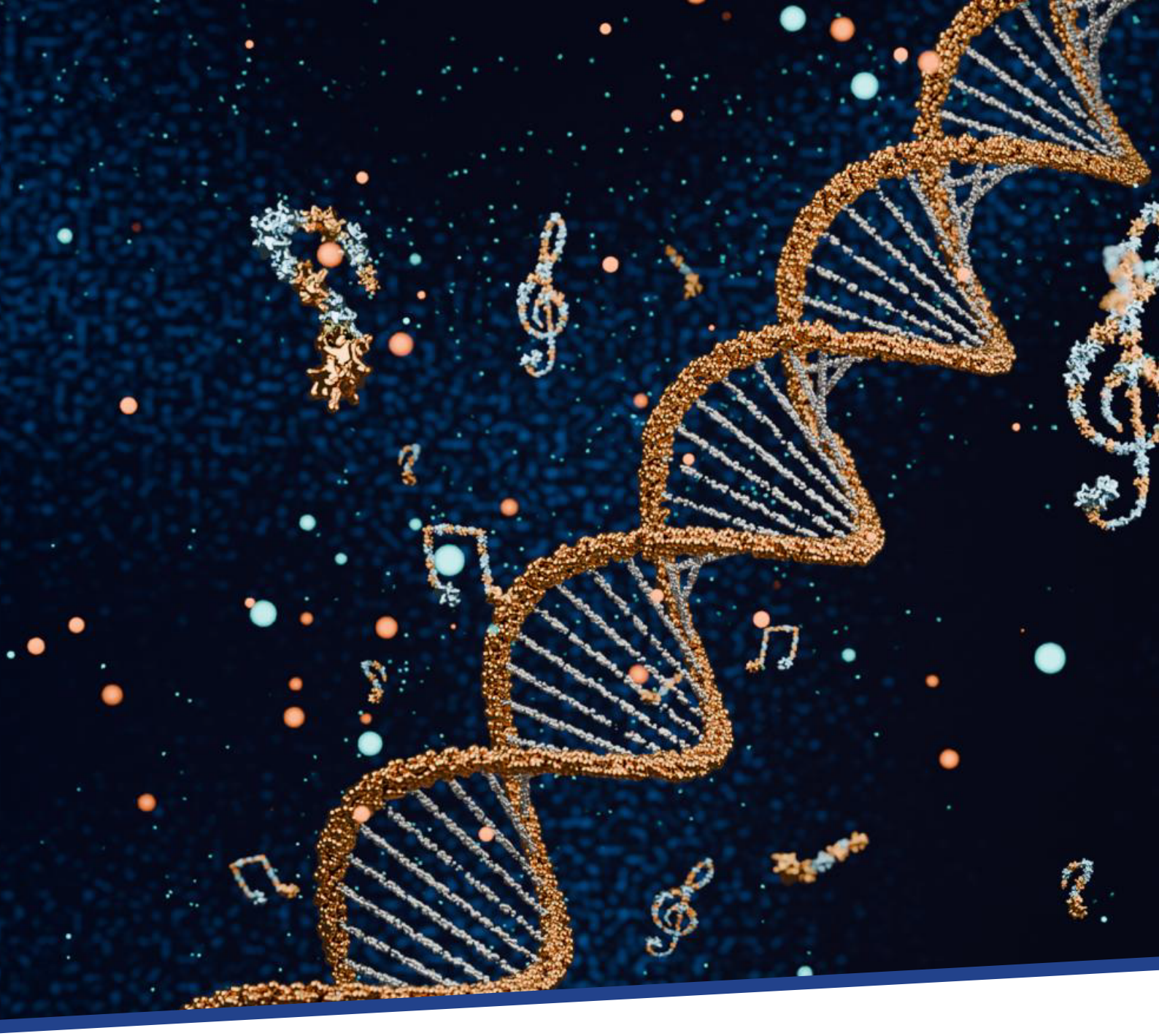
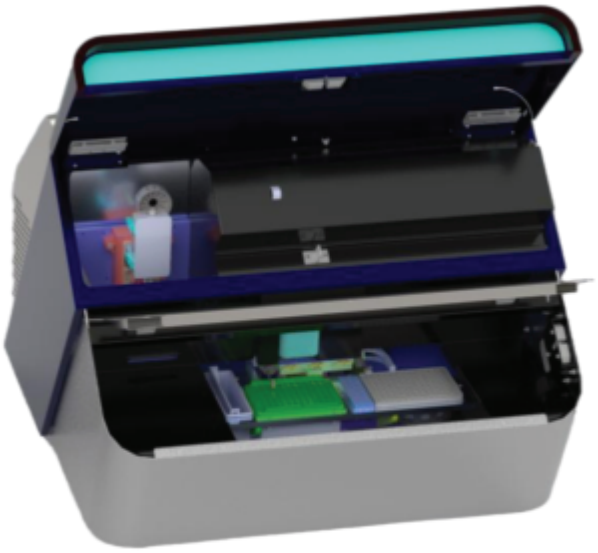


Codetta Bio™

CONCERTO SYSTEM



Introducing Codetta Bio Concerto System

The Concerto instrument revolutionizes biomarker quantification with a fully integrated, multi-omic workflow, enabling simultaneous analysis of nucleic acids and proteins in a single, efficient run.

Built upon microbead-based target capture and powered by a unique combination of digital PCR, real-time PCR, and immunoPCR, Concerto System delivers high-sensitivity, high throughput results with unmatched precision.

PROTEIN, DNA & RNA Analysis in a single harmonized workflow.

Codetta Bio™

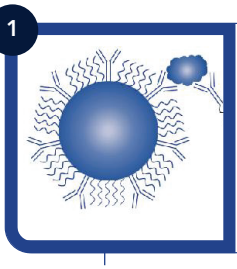
Revolutionizing Multi-Omics Data in Record Time

3 Hours | One Sample | One Workflow | Protein & Nucleic Acids.

Experience seamless DNA, RNA and protein biomarker analysis on a single platform.
No more juggling multiple instruments or managing complex workflows.

Codetta Bio Assay Workflow

1

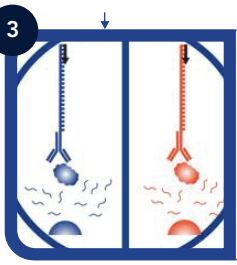


Beads, sample and detector antibodies are mixed to form a selective and sensitive immunocomplex for protein detection, or hybridization captured to beads tor nucleic acid detection.

2

Samples are loaded onto the Prelude chips and individual beads are captured into microwells. The chips are loaded into the instrument.

3

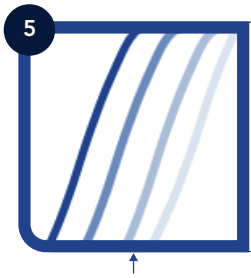


Thermocycling occurs within the Concerto System instrument, releasing analyte-specific primers from the bead into the microwell.

4

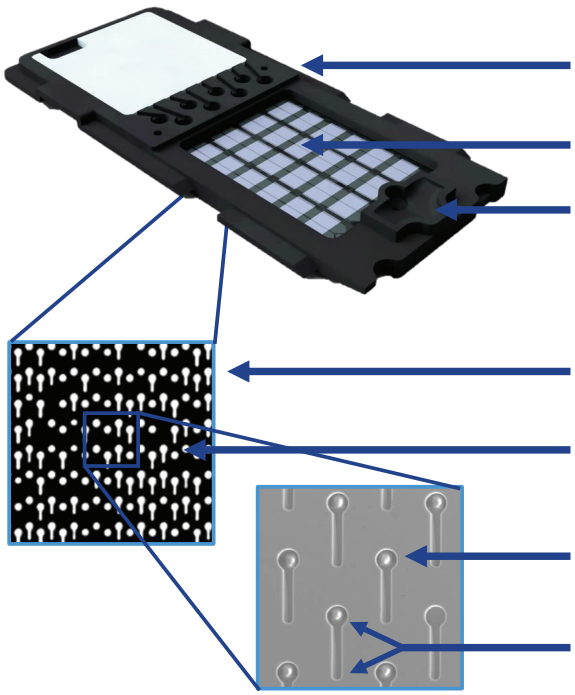
Microwell imaging occurs after each thermocycling step, enabling both qPCR and dPCR in the same Prelude chip.

5



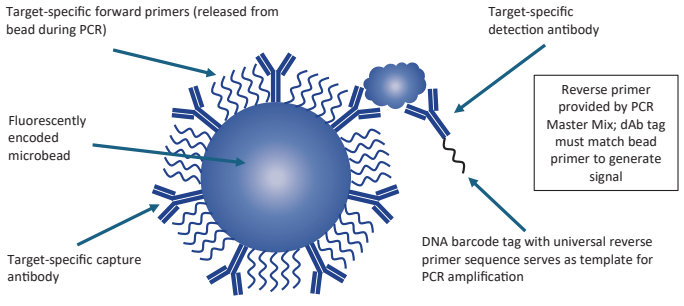
Analyte quantification is made across the digital and analog assay range. After quantification your data is ready for reveiw.

Codetta Bio Prelude Chips



Codetta Bio Noise Cancelling

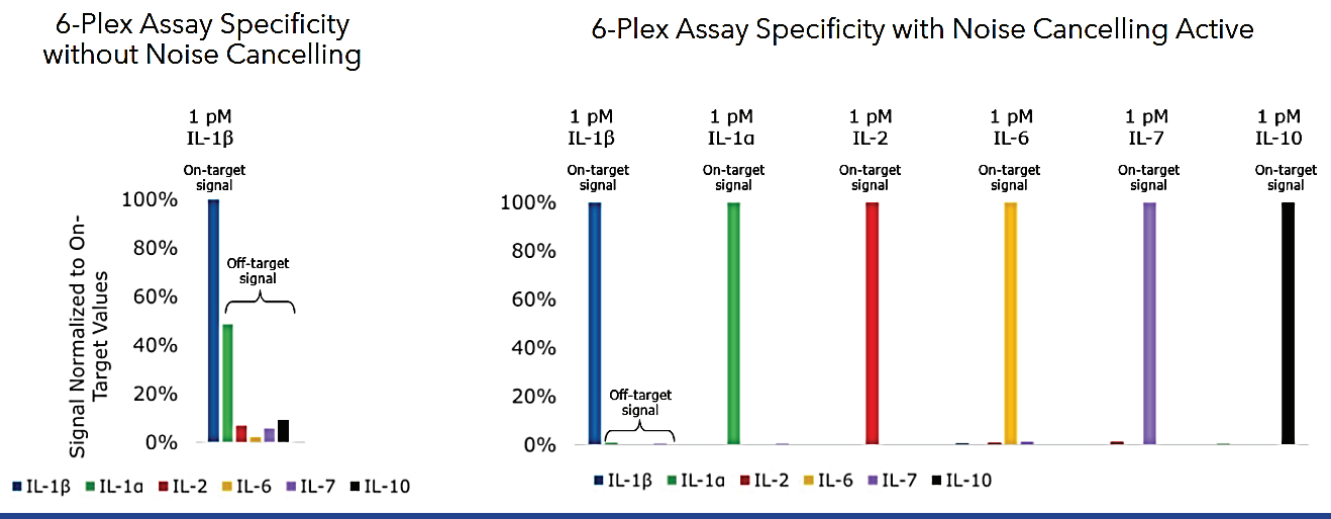
Traditional immunoassays rely on detection antibody (dAb) mixes that allow cross-reaction, limiting multiplexing capabilities and often forcing researchers to use single-plex analysis. Codetta Bio's noise-canceling technology eliminates non-specific signals, enabling highly sensitive assays with exceptional specificity—even in complex, multiplex environments.



- Fluorescently encoded microbeads provide a stable surface for both capture antibodies as well as one of the primers needed for immunoPCR signal transduction.
- Once the beads bind their specific target, they are labeled with detection antibodies conjugated to a DNA barcode unique to each analyte.
- The beads are loaded and sealed in microwell reaction chambers where they cannot interact with the other beads' chemistries.
- The amplification chemistry from each bead can only amplify the tag specific for that bead's analytes. Off target binding is not amplified and no false signal is detectable.

By eliminating non-specific signals, we enable highly sensitive assays that maintain exceptional specificity—even in complex, multiplex environments.

Elimination of Non-Specific Signal in Multiplex Assays

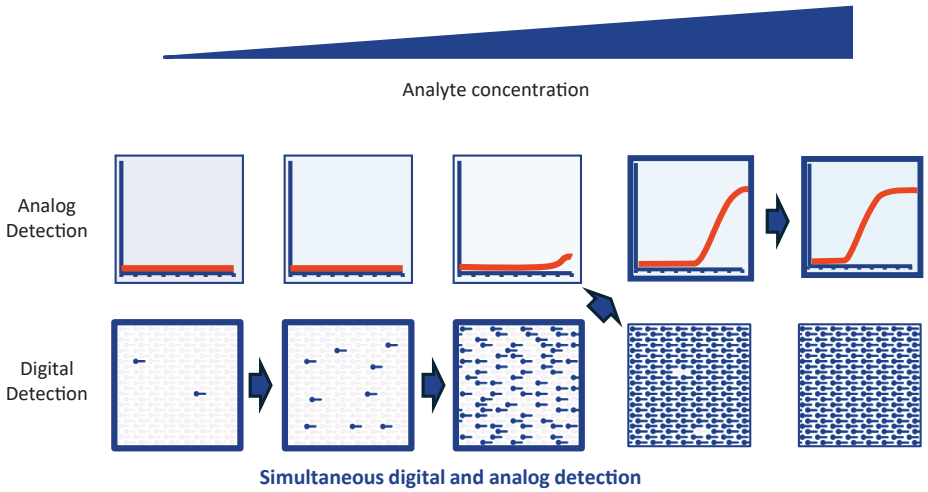


• In this figure on the left, the only antigen present in this multiplexed assay is IL-1beta, however you can see that without noise canceling, significant false positive signal was generated for IL-1alpha beads, and to lesser degree for the other analytes in this target mix.

• On the right is data produced with noise cancelling turned on, and the same dose-response for IL-1beta now has a clean response with extremely cross reactivity signal observed for other targets. Single antigen dose-response is depicted here for each target, showing typical background signal.

• Our modular design enables rapid reconfiguration of your multiplex panel without the need for re-\ optimization, offering unparalleled flexibility for your assay needs

Expanding the limits of detection & precision with digital & analog integration



Simultaneous digital and analog detection

Digital Detection for Low Target Concentration

• Using digital PCR detection, we achieve high sensitivity even near the Lower Limit of Quantification (LLoQ), making it ideal for low-concentration target analysis

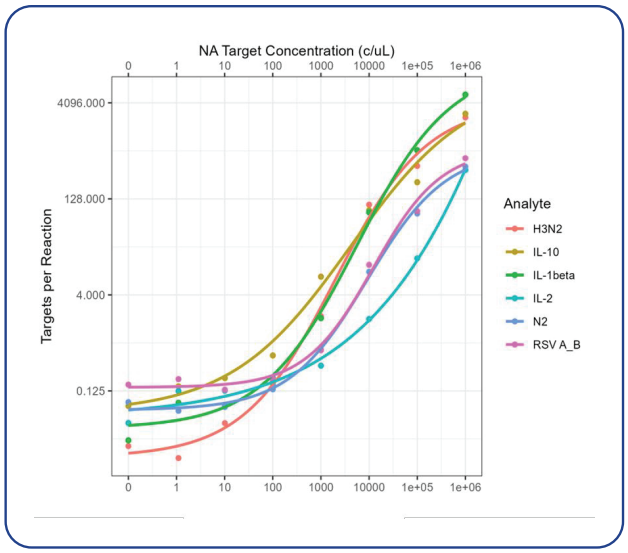
• Targets per Reaction (TPR) are accurately determined from the positive fraction of all beads for each target, delivering reliable multi-omic measurements with unparalleled precision

Digital Detection for High Target Concentration

• Using analog quantification (qPCR), we achieve precise measurement of high-concentration targets where all or most wells are positive

• Targets per Reaction (TPR) are determined from the average Quantification Cycle (Cq) values of positive beads, delivering reliable and reproducible multi-omic measurements at high concentrations

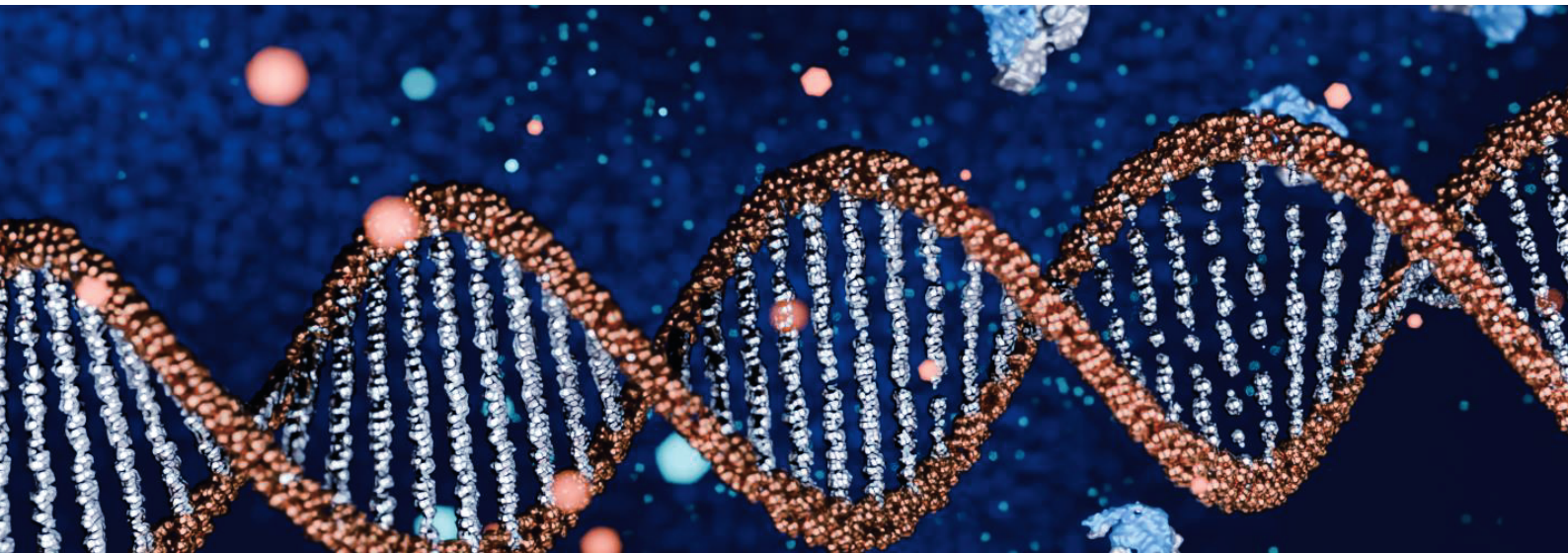
Multiplex, Modular and Multi-omic



• Protein and nucleic acid captures can be carried out on the same sample and resulting bead mixtures are combined and loaded into a single channel on the Prelude Chip

• Protein concentrations can be directly correlated to nucleic acid concentrations within the same sample

• Our modular design allows you to fine-tune a single-plex assay and seamlessly plug-and-play additional plex, ensuring specificity remains uncompromised, even as plex increases



Codetta Bio Throughput & Highlights

20-plex protein and nucleic acid data on the same day coming from one instrument, one workflow.

Run 1
09:00am
24 Samples

→

Run 2
12:00am
24 Samples

→

Run 3
03:00pm
24 Samples

→

Equals
72 Samples
Per Day

Multi-Omic Quantification in a Single Run

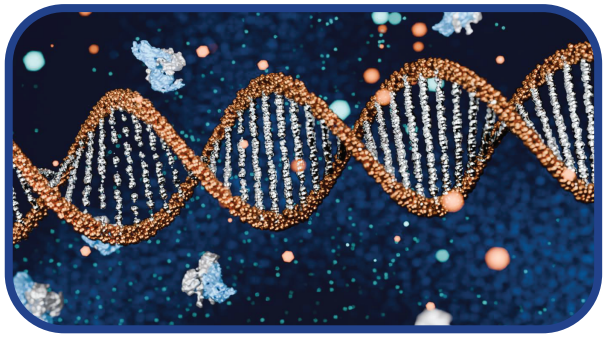
- Simultaneous detection of DNA, RNA, and protein biomarkers for deeper biological insights
- Eliminates the need for separate assays and multi-platform disparate data
- Expanding the limits of detection & precision with digital & analog integration

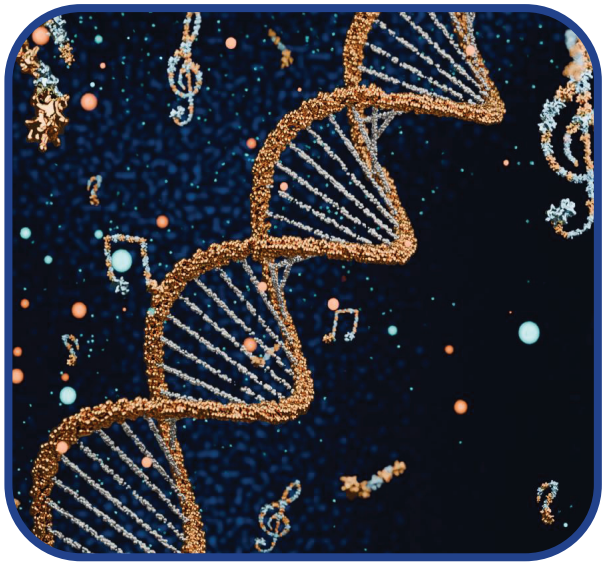
Compact & Cost-Efficient Design

- Combines multiple laboratory functions into a single platform, reducing overhead
- Minimizes the need for separate instruments and dedicated lab spaces

Advanced Noise-Canceling & Data Processing Algorithms

- Ensures precise quantification of targets
- Unmatched sensitivity and specificity—our technology eliminates non-specific signals, ensuring highly precise assays even in complex, multiplexed environments.





Technical Specs	
Capacity	Up to 3 chips per run; 24 samples
Assay run time	< 3 hours for 3 chips
Sensitivity	Achieves sub-pg/mL limits of detection (LODs)
Dynamic range	8-logs
Channels	4 channels for at least 20-plex
Operating Temperature Range	Indoor laboratory environmental conditions from 15 - 30 °C.
Footprint	Height: 680 Width: 692mm Depth: 668.5mm
Power	120-240 Volt AC
Regulatory	Research use only

Codetta Bio™

Contact Us:

+1 (984) 278-7170
marketing@codettabio.com
www.codettabio.com

Corporate Headquarters:

140 Southcenter Ct., Suite 200
Morrisville, NC 27560

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