

BLINK



XPLORE THE
DIGITAL
DIMENSION.

THE JOURNEY **X** STARTS HERE

THE BLINK X IS AN INTEGRATED TECHNOLOGY PACKAGE THAT IS THE PATHWAY TO BLINK BEAD EXPLORATION.

The X allows you to develop novel BLINK Bead test assays whether for research or with an eye to future product development on a fully automated platform such as the BLINK One for point-of-care use, or other solutions for laboratory process automation.

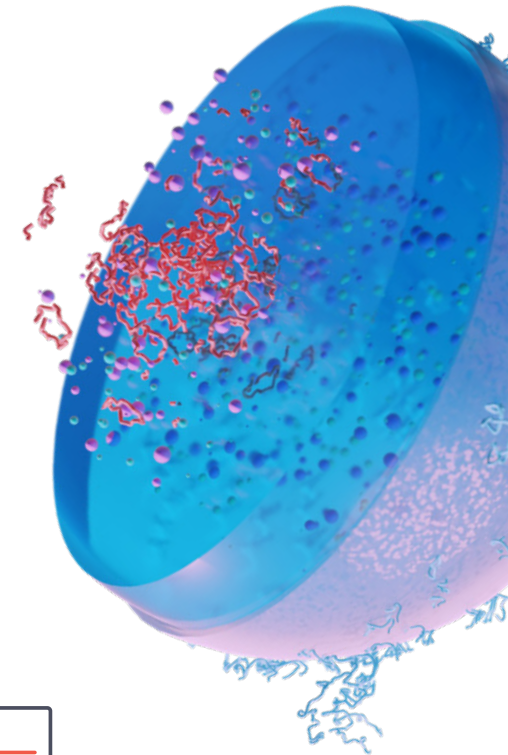
WITH THE BLINK X TECHNOLOGY YOU CAN EXPERIENCE THE FULL POWER OF THE BLINK BEADS.

BLINK Bead technology integrates sample preparation and ultraplex digital analysis. BLINK X is the product platform to explore this technology in your own lab and start developing ideas on where this approach may take you in your own research and development.



BLINK BEADS

NEXT GENERATION FULLY INTEGRATED DIGITAL ASSAY DESIGN



XPAND THE DIGITAL DIMENSION

Using BLINK Beads you can apply the principles of digital assay design beyond PCR to create any class of assay.

Digital assays are based on partitioning the sample into thousands of independent reactions, a function that the BLINK Beads are optimally designed to achieve. After being loaded with targets and amplification reagents and transferred to oil, each Bead forms an isolated reaction compartment for performing independent enzymatic reactions. This approach is typically utilised for PCR based assays; the Beads provide the technology to apply this principle to other enzymatic assays.



FAST dPCR

BLINK's design drastically reduces time to result. By integrating sample prep and the entire assay workflow within individual Beads workflows are completed in less than 30 minutes from sample to result. All material is amplified in a minimised volume distributed across thousands of individual compartments which provide for optimal thermal control, enabling fast cycling on BLINK's hardware.



INFINITE APPLICATIONS

The performance characteristics of this technique, namely single molecule sensitivity and exquisite quantification, are ideally suited to advanced applications such as copy number variation, rare mutation detection and NGS validation and preparation.

BLINK X

BLINK X INSTRUMENT

A four-channel fluorescence imager with integrated thermocycling module for BLINK X Mini-plate



BLINK X SHAKER

A small vertical shaker for efficient transfer of BLINK Beads from aqueous solutions to an oil phase, providing for a stable Bead suspension and cross-talk free target amplification



BLINK X PROCESSING RACK

A magnetic rack for manual processing of BLINK Beads in microwell strips or tubes for nucleic acid extraction and purification



BLINK X LOADING RACK & MINI PLATE

A magnetic rack that accommodates the BLINK X Mini-plate. It facilitates simple loading of processed Bead samples onto the Mini-plate and alignment of the Beads in a self-assembled monolayer for detection.



DIGITAL ULTRAPLEX ASSAYS

ULTRA-SENSITIVE + MULTIPLEX = **ULTRAPLEX**

BLINK Beads create ultra-sensitive assays with exquisite quantification.

Beads equipped with different primers and probes can be combined to form complex digital multiplex panels by assigning the analyte specific reagents to a specific fluorescent code. Assay reactions are carried out in individual Bead compartments, eliminating competition for molecular resources and providing the ability to quantitate different concentration levels of targets in one reaction.

BASIC ASSAY FORMATS



DIGITAL PCR ASSAY

Microfluidics-free absolute target quantitation with pre-made Bead nanoreactors. Single molecule sensitivity with wide measurement range.



ULTRAPLEX

Ultraplexing is highly flexible and sensitive multiplexing. It provides fully quantitative detection for each target across the entire measurement range without cross-interference from other targets in the panel.



SAMPLE MULTIPLEXING

Selective encoding of individual samples with encoded Beads, allowing for parallel processing of multiple samples in one test assay.

GETTING STARTED IS SIMPLE

THE BLINK X IS DESIGNED WITH USABILITY AT ITS CORE.

The BLINK X is equipped with the BLINK Toolbox assay design and development software package. It is connected to the BLINK Hub, a cloud-based development portal managed by BLINK. The BLINK team is there to support you all the way, providing training and support throughout your development journey.

Extensive data analysis tools

Assay programming interface

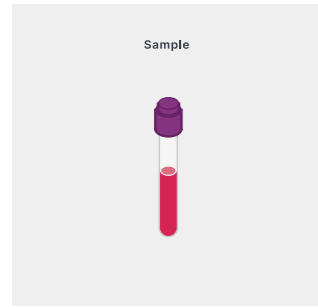
Fluorescence imager with integrated thermocycler

Open-access software package with pre-made assay templates thermocycler

Disposable Bead plates for seamless thermocycling and fluorescence detection

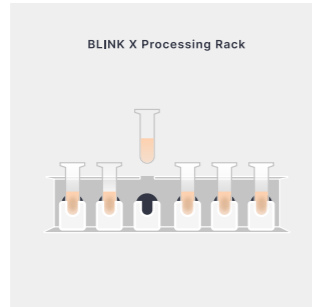
With the ability to provide a complete analysis workflow on a single reagent carrier, single molecule sensitivity, exquisite quantification and results in less than 30 minutes the BLINK Beads coupled with the BLINK X platform are the pathway to endless possibilities.

BLINK X WORKFLOW



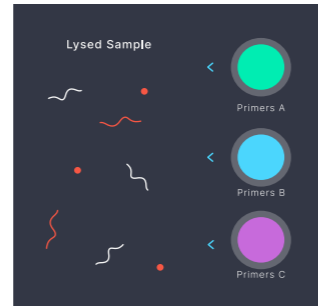
1. SAMPLE

Different samples can be processed with BLINK Beads.



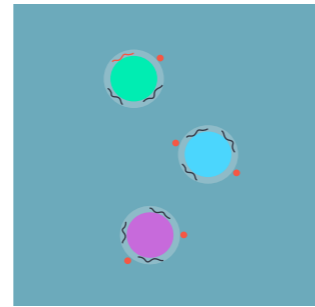
2. BLINK X PROCESSING RACK

Nucleic acid extraction steps and loading of amplification reagents are performed on the Processing Rack.



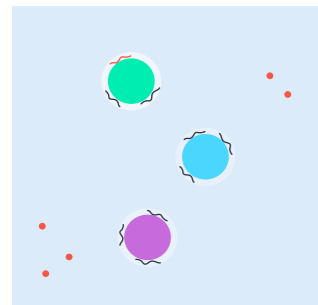
3. LYSIS AND BINDING

The sample material is lysed and contacted with Beads.



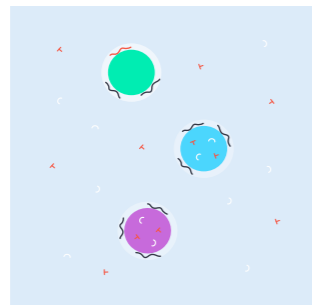
4. BINDING

An optimized binding buffer is added to the solution. Nucleic acids bind to Beads.



5. WASHING

A wash step removes un-specifically bound materials leaving purified nucleic acid bound to the Bead.



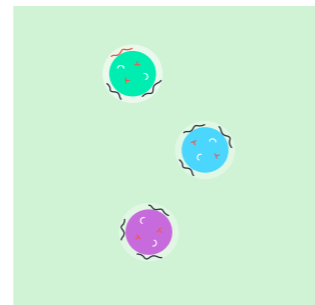
6. BEAD LOADING

Amplification reagents (RT/PCR enzymes, dNTPs) are added to the Beads.



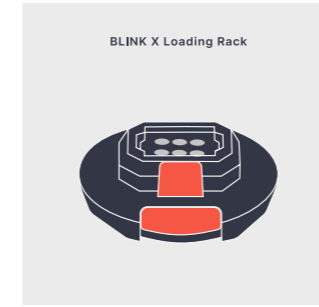
7. BLINK X SHAKER

A suspension of Beads in oil is generated with the Shaker.



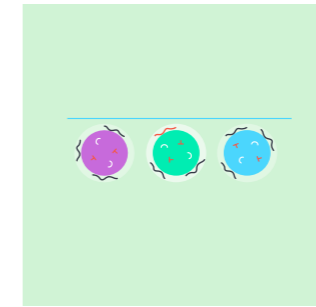
8. BEAD SUSPENSION IN OIL

Beads are separated by oil and contain defined volume of amplification solution.



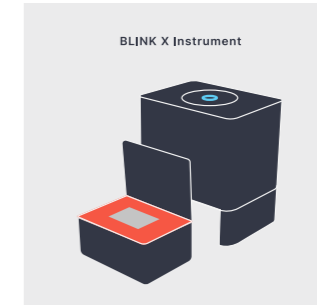
9. BLINK X LOADING RACK

Loading of Beads on Mini-Plate is facilitated with the Loading Rack.



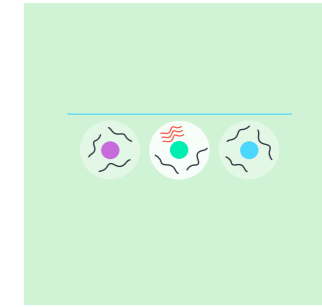
10. BEAD MONOLAYER FORMATION

Beads are placed in wells and aligned in monolayer formation for thermocycling and fluorescence imaging.



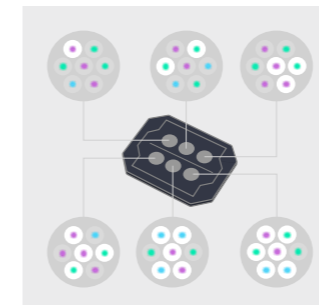
11. BLINK X INSTRUMENT

Thermocycling and fluorescence imaging are performed on the Instrument.



12. THERMOCYCLING AND FLUORESCENCE DETECTION

Thermocycling and fluorescence imaging are performed on the Instrument.



13. DECODING AND ANALYSIS

Image analysis provides for Bead decoding and PCR analysis. The quantity of each amplified target is determined for the samples processed on the Mini-Plate.



UNLIKE OTHER DIGITAL ASSAY TECHNOLOGY BLINK BEADS INTEGRATE SAMPLE PREPARATION WITH A COMPLETE ANALYSIS WORKFLOW.

By using the same carrier for nucleic acid extraction/enrichment, extraction yield is improved, and total captured material is used in the analysis, providing more precise and sensitive results.



BLINK X INSTRUMENT

A four-channel fluorescence imager with integrated thermocycling rack for BLINK X Mini-plate.



BLINK X LOADING RACK

A magnetic rack that accommodates the BLINK X Mini-plate. It facilitates simple loading of processed Bead samples onto the Mini-plate and alignment of the Beads in a self-assembled monolayer for detection.



BLINK X MINI-PLATE

A 6-chamber plate optimized for simple BLINK Bead loading with standard laboratory pipettes and Bead self-assembly into a monolayer for thermocycling and fluorescence detection. It is designed to be used with the BLINK X Loading Rack.



BLINK X SHAKER

A small vertical shaker for efficient transfer of BLINK Beads from aqueous solutions to an oil phase, providing for a stable Bead suspension and cross-talk free target amplification.



BLINK X PROCESSING RACK

A magnetic rack for manual processing of BLINK Beads in microwell strips or tubes for nucleic acid extraction and purification.



BLINK X BEAD KITS

Different kits for various applications are available. The kits contain all reagents for high yield nucleic acid extraction, target amplification and detection.



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