Nucleic Acid Extraction

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KingFisher product portfolio

KingFisher Duo Prime

12 - 24 samples 96 well plates
6-12 samples 24 well plates
30-5000 µl

KingFisher Flex

96 samples
24 samples

20-5000 µl

KingFisher Presto

24/96 samples

Full Automation with robots

50-5000 µl

Plastic consumables

BindIt Software

KingFisher &MagMAX kits

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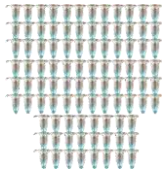
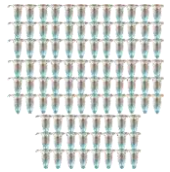
Versatility Through Various Throughput Levels

	Automation “lite”	Semi-automation	Full automation
KingFisher instruments provide throughput options that suit a wide variety of research needs			

	Duo Prime system	Flex system	Presto system
Instrument size	Stand-alone compact benchtop	Stand-alone benchtop	Benchtop + robotic liquid handler
Throughput level	● Low to medium	● ● Medium to high	● ● ● Ultrahigh
Samples per run/plate format	12 or 6 per run	96 or 24 per run	96 or 24 per run
			

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Reagents and Kits Across a Broad Spectrum of Application Types

DNA	RNA	Total nucleic acid	Immunoprecipitation / Protein
gDNA	Total RNA (excluding small RNA)	Viral RNA/DNA	Protein A, G
Cell-free DNA	True total RNA (miRNA and large)	FFPE DNA/RNA	Secondary antibodies
	mRNA	Cell-free total nucleic acid	Streptavidin

Find the right kit at thermofisher.com/kingfisherkits

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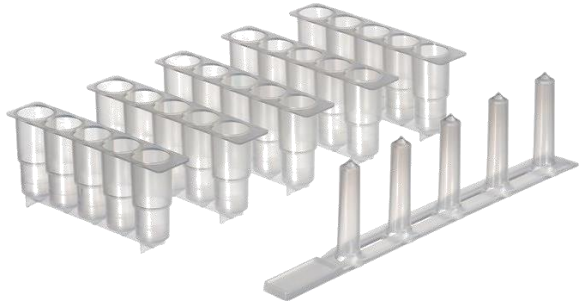
KingFisher Consumables

- Specially designed KingFisher microplates, tubes and tipcombs for optimal processing and isolation of target molecules
- Made of polypropylene
- Optimal for magnetic particle processing due to low binding of biomolecules
- Enables >99% (KingFisher) and >95% (KF mL & KingFisher Flex) recovery of magnetic particles



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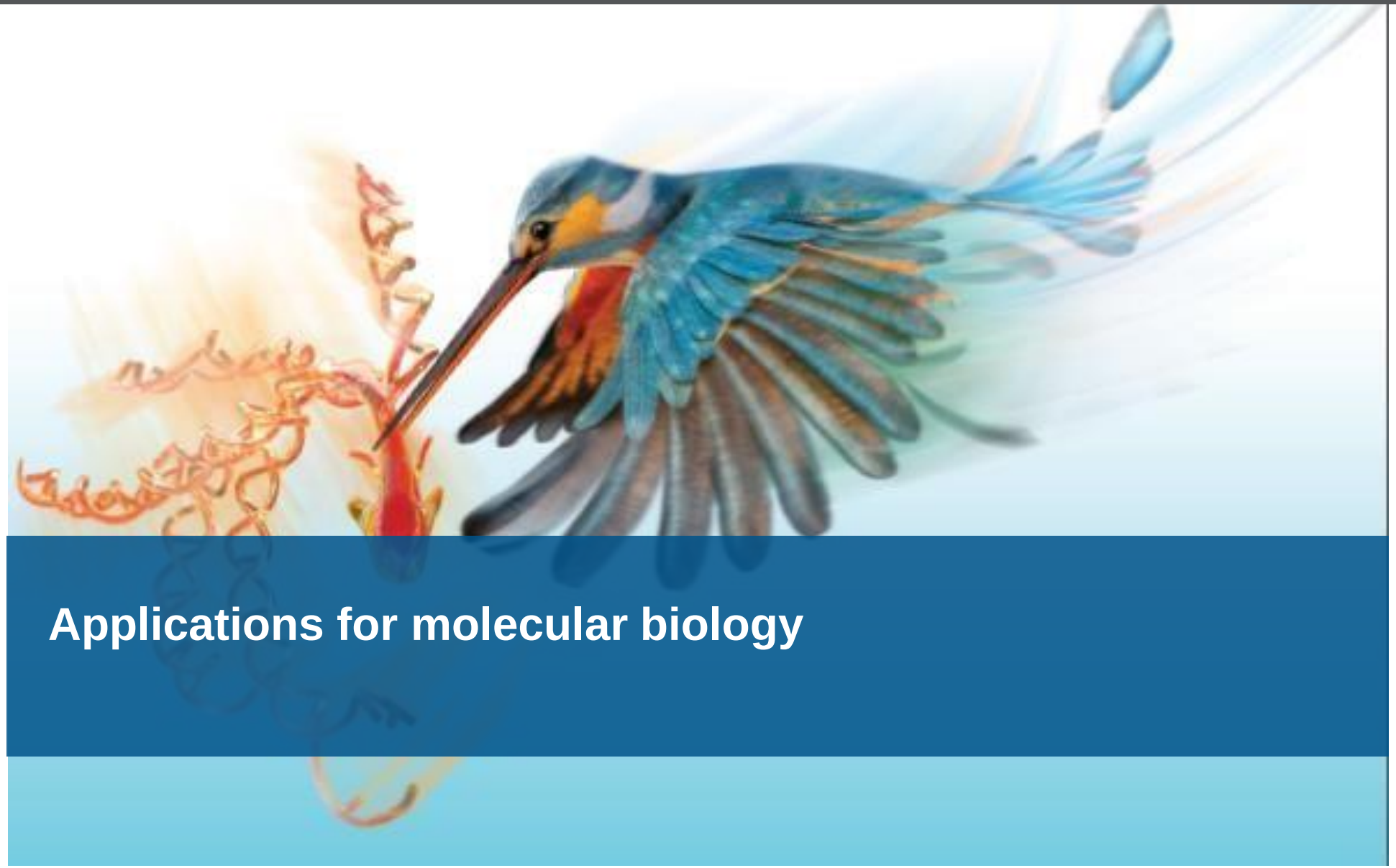

Applications for molecular biology

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KingFisher Applications

DNA

gDNA
Viral DNA
Plasmid DNA
PCR Clean up
Phage Display

Protein

Titanium beads
Streptavadin-Biotin
Thermo Pierce Beads
Trypsin SMART Digest

RNA

Total RNA
miRNA
Poly A Selected

Mag Beads

Luminex
Omega Biotek
Spherotech Beads
Sera Mag
Mag sepharose
Promega
Perkin Elmer

Dyna Beads

Immuno Percipitation (IP)
Cell Isolation (+ve and –ve)
T-cell activation beads
Custom Beads
IVD Assay Development

Instruments

NGS - (IonTorrent and MiSeq)
CTC - IsoFlux/Liquid Biopsy
Chromatography - Dyna RPC 18
BioRad – Bio-plex
Mass Spec - Upstream isolation, clean up or digest

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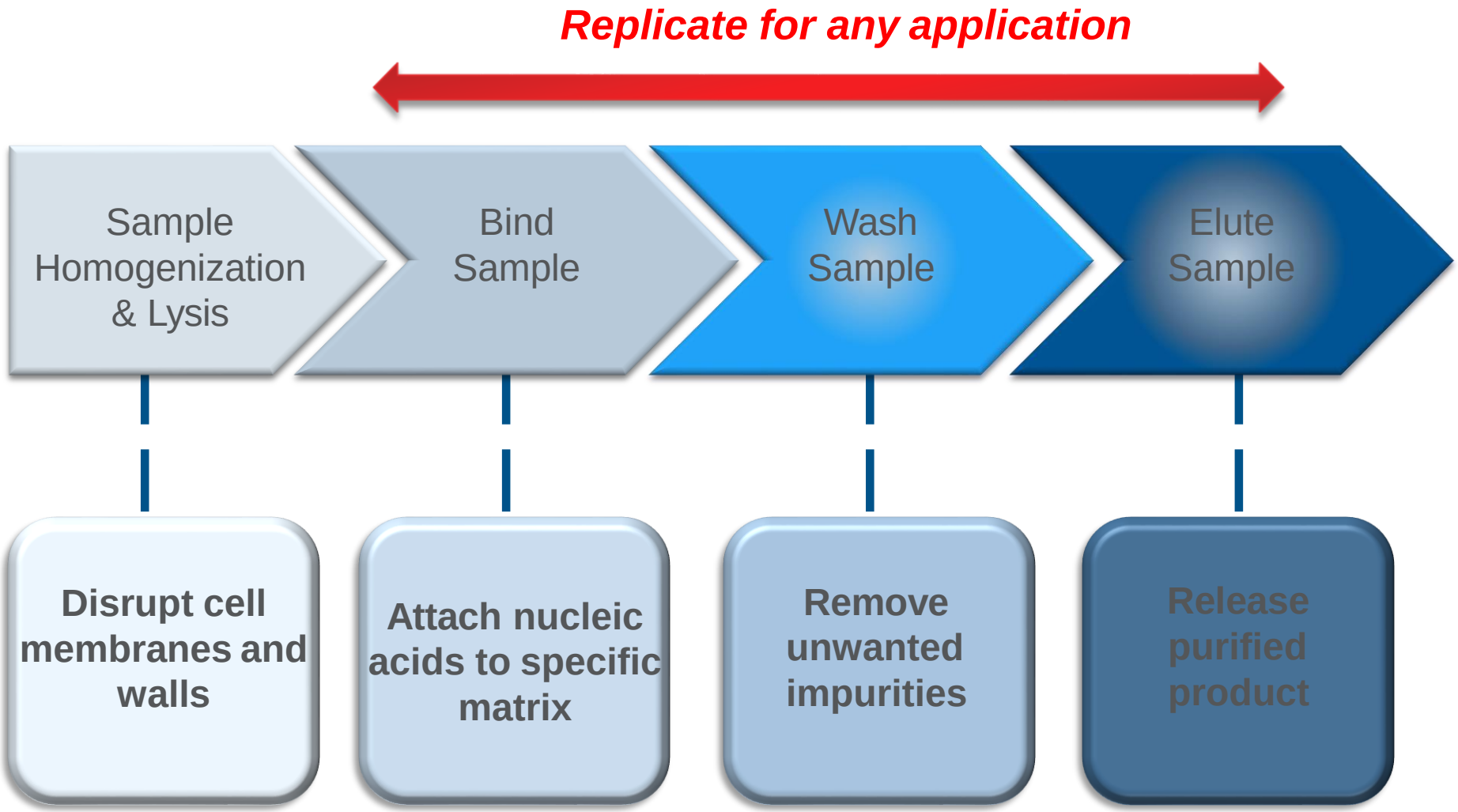
Nucleic Acid Extraction Process



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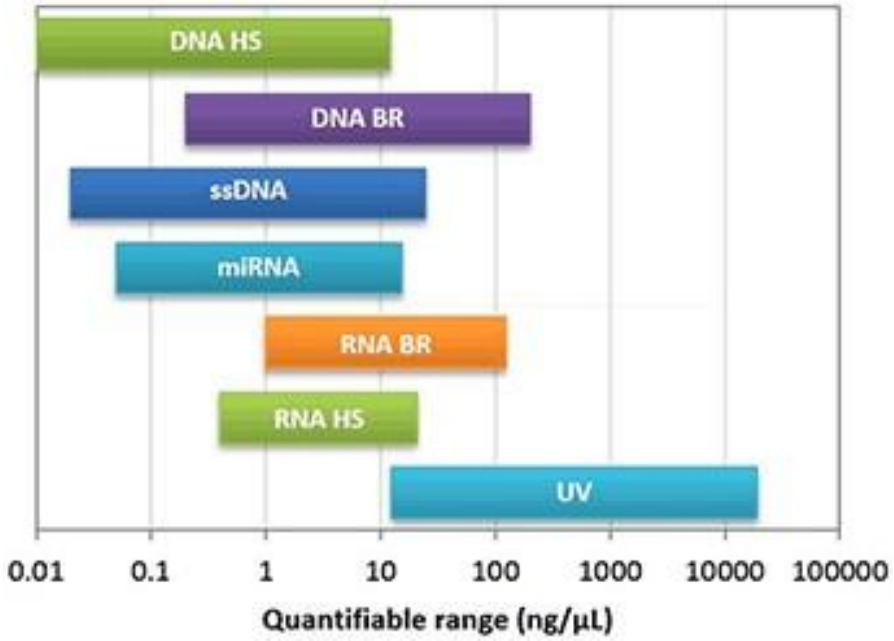
Qubit assays

- The Qubit uses target-selective dyes that emit fluorescence when bound to DNA, RNA or protein
  - The system won't detect other biomolecules in the sample
- DNA quantification assays: dsDNA, ssDNA and oligos
- RNA and miRNA quantification assays
- Protein quantification assays



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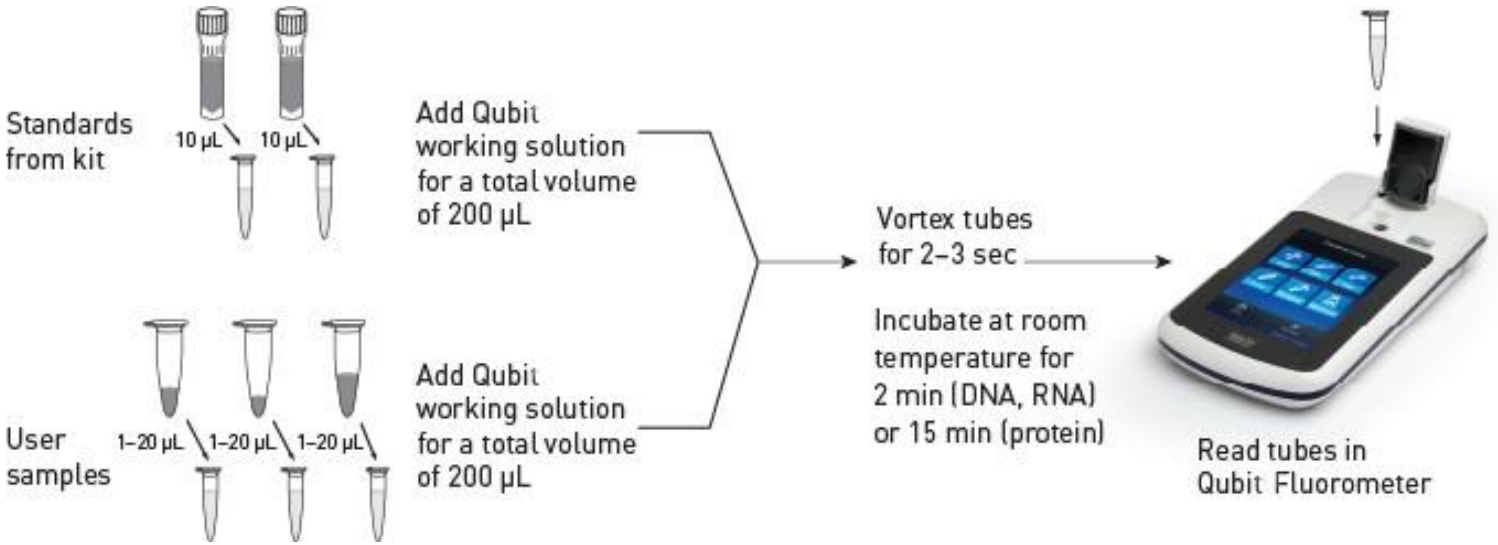
Qubit assays

- All assays use the same general protocol
- 2min incubation time for DNA and RNA assays
- 15min incubation time for protein assays



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Qubit Product Guide

Qubit 4	Qubit 4 Quantification Starter Kit	Qubit 4 NGS Starter Kit
		

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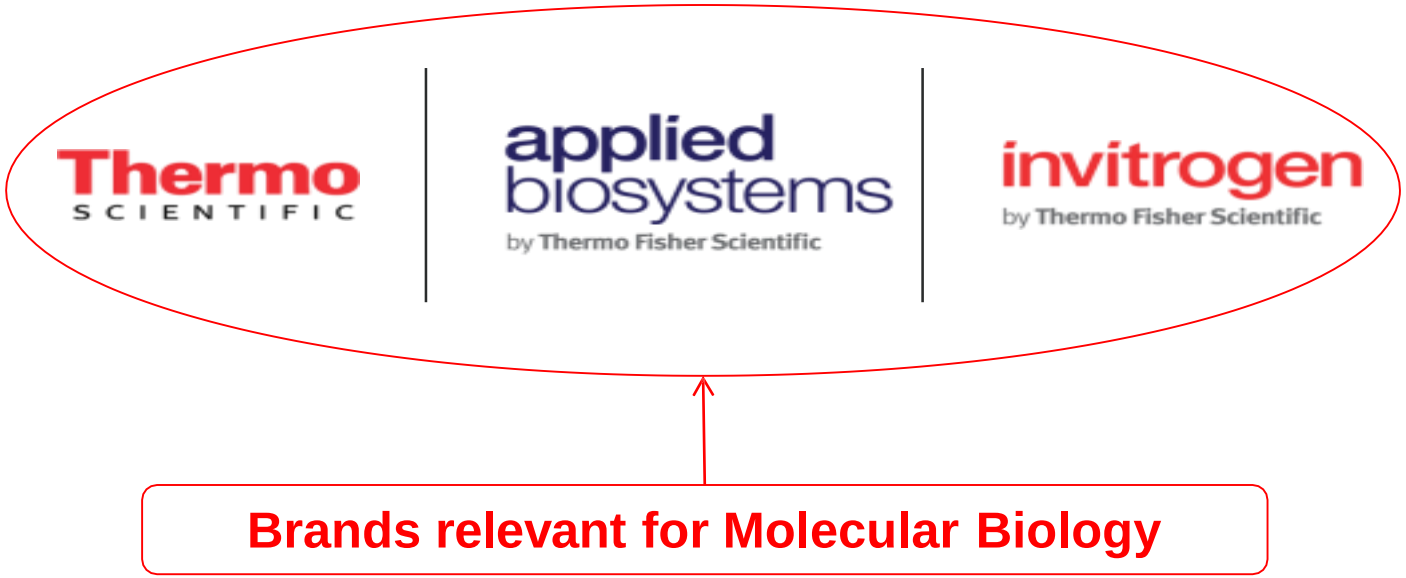
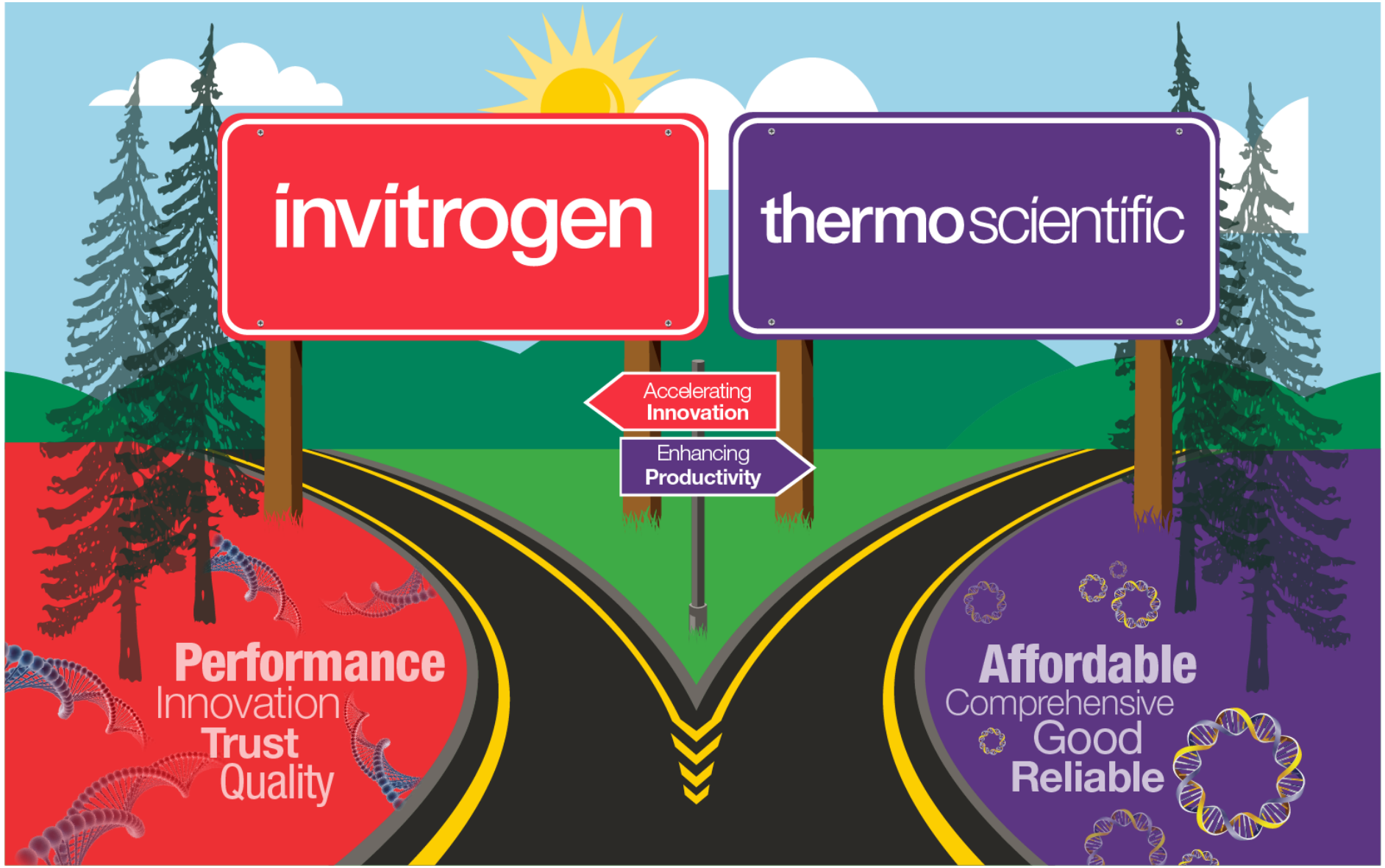


Molecular Biology Brand Strategy: reagents



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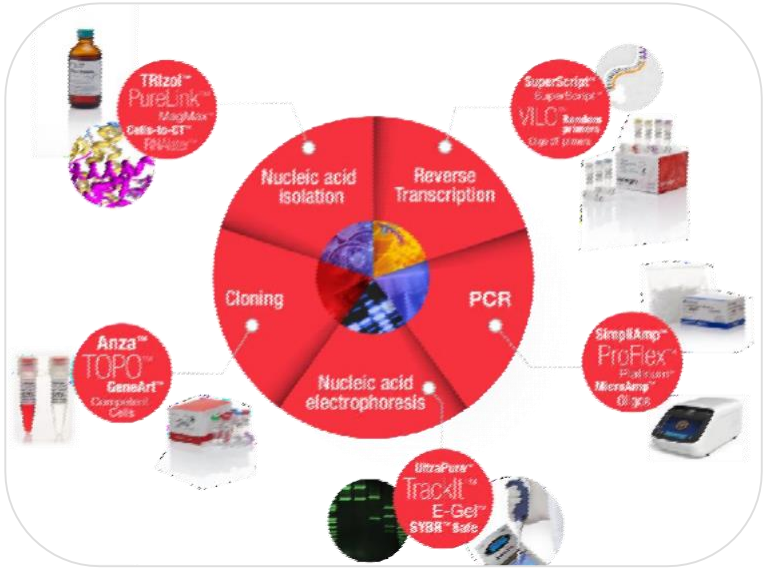
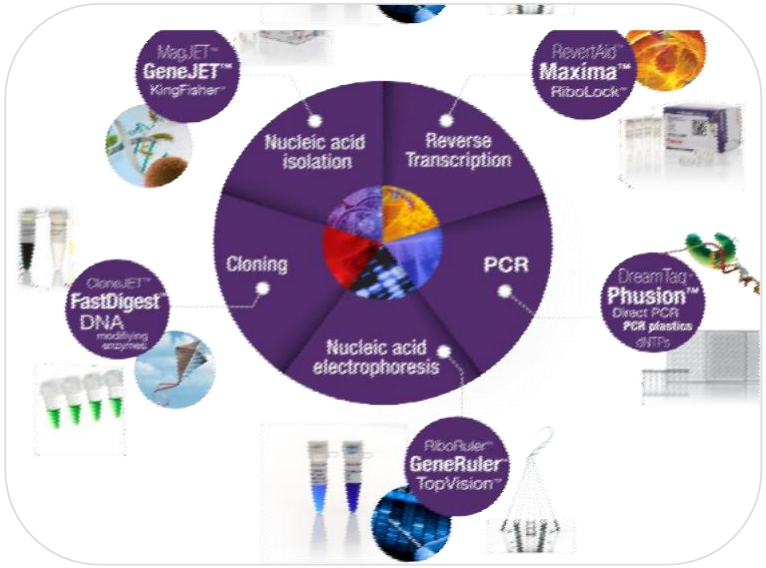
Molecular Biology Business Unit Portfolios

- **Portfolios**:
  - End Point PCR (ePCR) – includes enzymes and Master Mixes for end point PCR and reverse transcription, and nucleotides
  - Thermal cyclers and PCR plastics
  - Molecular Biology Tools (MBT) – includes enzymes, products for cloning and NA electrophoresis, competent cells





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Combined Portfolio Expands Addressable Markets

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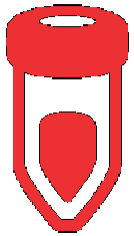
PCR is everywhere

96% of all mol bio labs are preforming PCR

A step critical for most mol bio applications

PCR is a significant sales opportunity



Milions

PCR reactions performed in Africa every year

- Cloning/gene characterization
- Genotyping
- Sequence detection
- Sequencing

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PCR components

Instruments | **PCR Plastics** | **PCR enyzmes** | **dNTPs**

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Reverse transcription

Invitrogen TM Superscript TM IV Reverse Transcriptase

- **Super efficient - high cDNA yields and processivity**
- **Super robust - transcribes even from degraded or inhibitor-containing RNA samples**
- **Super convenient - available in a variety of formats, all with a fast, 10-minute cDNA synthesis protocol**

thermofisher.com/ssiv

Invitrogen TM Superscript TM IV VILO TM Master Mix

- **Improved Ct—up to 8 fewer cycles compared to other RT reagents**
- **Superior linearity—works with a broad range of input RNA for any RT-qPCR application**

thermofisher.com/4vilo

SuperScript™ IV One-Step RT-PCR System

- **Two-phase hot-start activation mechanism— enables room temperature setup and high specificity**
- **Unmatched performance—high sensitivity and target length, with the fastest protocol**

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DNA Polymerases

Platinum II Taq Hot-Start DNA Polymerase

- **Universal primer annealing—reduces tedious optimization**
- **Engineered Taq polymerase combined with leading hot start—enables fast, robust, and highly specific PCR**

thermofisher.com/platinumiitaq

Invitrogen Platinum SuperFi DNA Polymerase

- **Exceptional fidelity—100x more accurate than Taq DNA polymerase**
- **Robust and versatile—ideal for difficult targets**

thermofisher.com/superfi

Thermo Scientific DreamTaq Hot Start DNA Polymerase

- **Better reaction outcomes**
  - **Higher yields**
  - **Higher specificity and sensitivity**
  - **Longer amplicons supported**
- **Convenience**
  - **Room temperature reaction setup**
  - **Direct loading on a gel with green buffer formats**
  - **Minimal reaction optimization due to optimized buffer with MgCl2**

DreamTaq Hot Start enhances your PCR productivity

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Thermo Scientific Phusion High-Fidelity DNA Polymerase

Highlights:

- **Accurate sequence**—high fidelity (52x more accurate than Taq DNA polymerase, 6x more accurate than Pfu DNA polymerase)
- **Reputation**—most widely used high-fidelity enzyme on the market
- **Formats optimized for specific applications**—Phusion U DNA Polymerase for dUTP incorporation, green buffer for direct gel loading, and multiplex master mix formats available
- **Money-saving**—affordable for a high-fidelity DNA polymerase

thermofisher.com/phusion

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Analyse

Christian Dutoziet
TSS – West and Central Africa

1. Introducing E-Gel Power Snap Electrophoresis System
2. Comparison
3. Consumables

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Power Snap

Instruments

Precast Gels

Ladders and Stain

Plastics

ThermoFisher SCIENTIFIC

Introducing E-Gel Power Snap Electrophoresis System

The E-Gel™ Power Snap Electrophoresis System provides:

- **Faster analysis**—sample loading to image capture in as little as 15 minutes
- **Safer Choice**—minimize handling of hazardous chemicals as well as risk of gel breaking
- **Simple operation**—intuitive user interface with large touch screen and integrated operating system
- **Streamlined electrophoresis system**—with integrated image visualization
- **Small footprint**—for convenient benchtop use

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E-Gel Power Snap Electrophoresis System

The only integrated gel running and imaging platform

High resolution digital camera
for quick, easy image capture

Touch screen
with intuitive user interface

Intuitive analysis software
with auto-exposure and auto-capture

Front facing USB port
for easy file transfer

32 Gb internal storage
>3 months of work with camera

Designed for standard
E-Gel Cassette electrophoresis

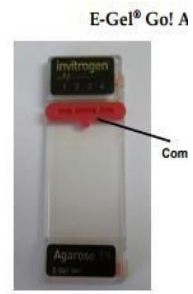
Compatible with all standard low-throughput E-Gel Agarose gels, including: E-Gel EX, E-Gel SYBR Safe, E-Gel SizeSelect and E-Gel CloneWell, E-Gel Go!

Amber filter
for real-time sample monitoring

Integrated power unit and
blue light transilluminator

Pre-programmed protocols
for rapid analysis

E-Gel Go! Adapter
to enable low throughput E-Gel Go! Agarose gels



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Questions?

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Workflow

QUANTIFY

Qubit 4

AMPLIFY

MiniAmp
Thermal Cyclers

ANALYZE

E-Gel Power Snap
Electrophoresis
System

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