



YOUR PARTNER IN **BIOTECHNOLOGY**

Our biotechnology portfolio provides complete solutions for genomics, proteomics, and cell biology workflows. Our range includes Bio-Rad products for PCR, imaging and immunoassay multiplexing, as well as next-generation sequencing solutions from Oxford Nanopore Technologies.



CONTENTS

Cell Biology 01

Diagnostic Tools for Agriculture & Veterinary 03

Genomics 04

Proteomics 10

Purification 13

CELL BIOLOGY

Comprehending the composition and physiological role of individual cells, their reaction to pathological conditions, and determining the optimal treatment approach, is an enormous task. Our range of products, including automated cell counters, cell-based assays, and stem cell research support is designed to offer you the essential support and necessary knowledge to advance with confidence.

ANTIBODIES AND REAGENTS

Bio-Rad offers a comprehensive range of quality cell biology reagents, including many unique specificities, which cover key research areas such as apoptosis, cancer research, cell signalling, and cell morphology.

Many of our cell biology antibodies are conjugated for direct detection, saving you valuable time. Our ISO 9001 reagents have guaranteed performance to specification and are suitable for many applications.

Our cell biology antibodies are also ideal for use in our world leading range of life science research products, such as the ZE5 Cell Analyser, S3e Cell Sorter, TC20 Automated Cell Counter, ZOE Fluorescent Cell Imager, and more.



CELL ANALYSING

The ZE5 Cell Analyser is an innovative flow cytometer that offers flexible configurations to cater to a wide range of experimental complexities and throughput requirements. It is designed to be accessible to novice users of flow cytometry while remaining flexible enough to meet the needs of experienced professionals in the field.

CELL COUNTING

The TC20 Automated Cell Counter has the ability to accurately count cells in a single, straightforward step by utilising innovative auto-focus technology and a sophisticated algorithm for cell counting. With the TC20, precise mammalian cell counting can be performed in less than 30 seconds, making it a time-efficient option for researchers and medical scientists alike.

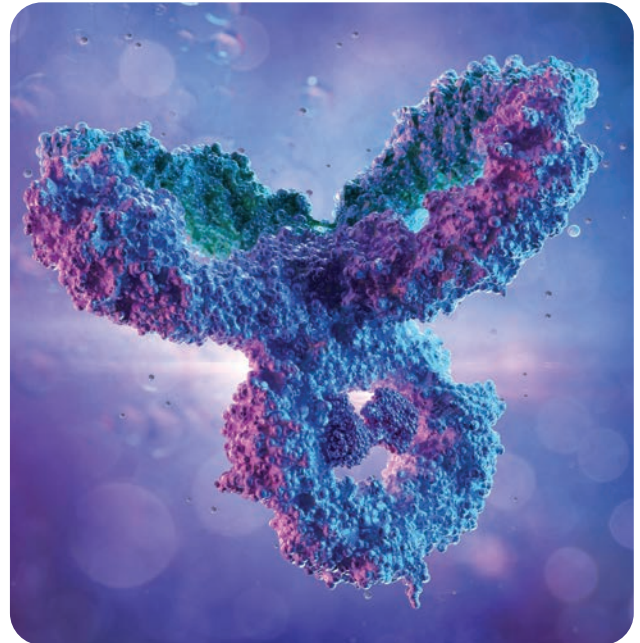


BIO-RAD ANTIBODIES AND STARBRIGHT DYES

Bio-Rad provides complete solutions for all your antibody needs, through an extensive inventory of ready-made primary and secondary antibodies, controls, and reagents.

StarBright Dyes have been designed to be stable with superior brightness, narrow excitation and emission characteristics, and the flexibility to be included in new and existing experiments. Improved resolution of specific cell populations and minimised spillover and spreading allow you to build bigger, better panels with ease. Conjugated to highly cited immunology antibodies, StarBright Dyes are a great addition to Bio-Rad's range of fluorescent dyes.

Bio-Rad also offers the PrecisionAb Antibody range, which is rigorously tested in western blotting for specificity and reproducibility and is designed to help researchers produce the highest-quality western blotting data.



MASS CYTOMETRY

Mass cytometry is an advanced and powerful cytometric platform which utilises a time-of-flight mass spectrometer to enable the detection of single cells tagged with isotopically pure metal-labelled reagents. Powered by CyTOF technology, mass cytometry overcomes the limitations of fluorescence-based detection systems by separating signals according to isotopic mass instead of wavelength.

CYTOF® XT

Standard BioTools fully automated cytometry by time-of-flight with the ability to analyse millions of cells at single-cell resolution for up to 50 markers.

Autonomy: Automated sample loading, acquisition and monitoring expands what your lab can accomplish by simplifying daily workflows and reducing operator time.

Efficiency: Easy setup and automated system optimisation allowing peak performance with minimal input.

Clarity: The precision of measuring marker expression using mass cytometry is unmatched by fluorescence cytometry methods. Cleaner signals translate to more accurate data.

Insight: Simpler cell profiling with standardised workflows to accelerate therapeutic development. Imaging Mass Cytometry.



DIAGNOSTIC TOOLS FOR AGRICULTURE & VETERINARY

We offer a comprehensive range of PCR, ELISA and Rapid Diagnostic tests for several plant pathogens as well as livestock, poultry, cattle, porcine, and companion animals.

ENZYME-LINKED IMMUNOASSAY TEST KITS

ELISA kits are available in multiple formats (direct, indirect, competitive, sandwich) covering most plant and animal pathogens. The kits come with ready-to-use reagents and can be supplied in either strip or plate format.



IMMUNODIAGNOSTICS

Veterinary: Immunodiagnostic kits include all the necessary reagents for the analysis of serum, plasma and milk samples. They are supplied in single or multiple parameter strip formats with an 18-month storage at room temperature.

Agriculture: Rapid and easy-to-use lateral flow tests that can be used onsite, are available in packs of 25 and 50 strips. These test strips are dipped in a bag containing a reagent and crushed plant samples. The strip reacts specifically with the possible presence of a GMO, a virus, a bacterium, or a fungus.

POLYMERASE CHAIN REACTION KITS

Ready-to-use PCR kits from sample pre-treatment to final results are available.

- Simple sample preparation kits
- Nucleic acid purification kits
- Amplification kits (qPCR)



GENOMICS

Discover our comprehensive selection of PCR amplification systems, designed with state-of-the-art technology to enhance accuracy and reproducibility in nucleic acid amplification for genomic experiments. Our PCR product lines include cutting-edge thermal cyclers, advanced real-time PCR systems, high-quality PCR reagents, and durable PCR plastic consumables.

CONVENTIONAL THERMAL CYCLERS

Find a DNA amplification instrument that fits your needs. Common features of the thermal cyclers we offer include Peltier effect technology for precise temperature control, and thermal gradient to easily optimise PCR assays in a single run.



DROPLET DIGITAL PCR

The droplet digital PCR (ddPCR) technology is truly a game-changer in the field of nucleic acid detection and quantification. This breakthrough technology is designed to identify and measure very low levels of specific targets, such as allelic or structural variants that may not be detectable by other platforms. The advanced multiplexing offerings of the ddPCR technology enable analysis of multiple targets in a single well, without compromising accuracy and precision. Overall, the ddPCR technology is a highly effective solution for researchers and medical scientists who require ultrasensitive detection and absolute quantification of low abundance targets.

REAL-TIME THERMAL CYCLERS

The CFX Real-Time PCR Detection Systems boast impressive characteristics, including 2 - 5 colour multiplexing, advanced optical technology, and precise temperature control with thermal gradients. With these features, the qPCR systems can accurately detect both singleplex and multiplex real-time PCR reactions with reliability and sensitivity. Additionally, the software provides exceptional data collection, statistical analysis, and data visualisation capabilities.



DECONTAMINATION SOLUTIONS

PCR Clean™ Spray and Wipes

Residual DNA, RNA, DNases, and RNases can cause cross-contamination and degrade target RNA and DNA, compromising the PCR experiment.

These contaminants are resistant to standard cleaning methods, making their removal problematic.

Features:

- Available as spray or wipes for the removal of DNA, RNA, DNase, and RNase contamination
- Ready-to-use solution
- Compatible with most lab surfaces, PCR workstations and lab equipment
- Convenient and effective within seconds after use



CELL CULTURE CONTAMINATION PREVENTION

Microbial contamination is a common problem in many cell and molecular biology laboratories and has a significant impact on the success and cost of research studies. We offer solutions for reliable contamination prevention against microbial growth in incubators, water baths, cell cultures and culture media.

ZellShield®

ZellShield® is a ready-to-use additive for culture media that protects cell cultures from a broad range of common contaminants. Its protective effect is based on a combination of novel antibiotics with macrolide properties that inhibit bacterial DNA and protein synthesis.

Specificity: ZellShield® is active against most intracellular and extracellular growing gram-negative and gram-positive bacteria, mycoplasma, protozoa, fungi, and yeasts.

Wide Range of Applications: Can be used for permanent cell cultures as well as freshly prepared primary cell cultures.

No Cell Toxicity: No cytotoxic effects have been reported on various cell lines.

Easy-to-use: ZellShield® is added directly to a freshly prepared cell culture or premixed with cell culture medium.

Low Resistance Risk: ZellShield® contains carefully selected antimicrobials with an extremely low resistance bias.

Stability: Stable and active under typical incubation times and conditions.



WaterShield™

Water in CO₂ incubators and water baths offers ideal conditions for microbial contamination and growth. WaterShield™ is a water additive that prevents microbial growth.

Broad Antimicrobial Activity: Active against most bacteria, mycoplasma, protozoa, algae, fungi, and yeast.

Wide Range of Applications: Can also be used in common water / heating baths including water pans of CO₂ incubators and is compatible with common laboratory surfaces, e.g., tin plated iron, chrome, nickel steel, high grade steel and copper.

No Cell Toxicity: All ingredients are safe and do not cause any irritating effects to the skin when used at the recommended concentration.

No Pipetting: Simply add 10 ml of WaterShield™ directly to 2 litres of deionised water.

Long-lasting Activity: Active for about 4 weeks. A blue stain indicates the status of the additive.



PCR GRADE WATER

Ultrapure water for PCR which is free of endonuclease, nicking and exonuclease activity as well as human DNA.

PCR PLASTIC CONSUMABLES

We offer a large selection of PCR plates, seals, tubes, and accessories precisely manufactured for optimal fit and cycling performance in thermal cyclers, and real-time PCR systems.



PCR AND REAL-TIME PCR REAGENTS

We offer a wide range of reagents for reverse transcription, PCR, and real-time PCR, optimised to generate accurate and reproducible data.

MICROFLUIDICS

Microfluidics simplifies your workflow through nanoscale automation which maximises efficiency and provides the flexibility to scale your projects with increased data output. This allows you to tailor your experimental plan to match your experimental needs with microfluidics-based PCR and NGS library preparation.

Biomark X9™

The X9™ Real-Time PCR System enables high data output with more than 9,000 individual nanolitre reactions in a single run, ensuring cost-effective comprehensive sample profiling with minimal hands-on time.

Versatile: Perform real-time PCR, Genotyping by Sequencing (GBS) and high-marker-density experiments with consistent and reproducible results.

Efficient: Reduce cost and hands-on time with walk-away automation and reaction miniaturisation. Generate up to 46,080 datapoints per 8-hour shift.

Scalable: Easily add, remove, and replicate assay targets and adjust sample batch size without changing chemistry or workflow.



NEXT GENERATION SEQUENCING PLATFORMS

Next Generation Sequencing (NGS) Library Preparation has caused a significant transformation in the field of genomics research and has now become the go-to technology for undertaking large-scale genomics and transcriptomics studies. In order to aid researchers in tackling even the most intricate biological queries, we provide an array of innovative NGS library preparation products.

Digital PCR Library Quantification Kits

Bio-Rad digital PCR kits allow accurate quantification of DNA libraries before next-generation sequencing (NGS) on Illumina RNA-Seq and Ion Torrent AmpliSeq Platforms.



Single-Cell NGS Library Preparation

The ddSEQ Single-Cell Isolator is part of the Single-Cell Sequencing Solution for single-cell chromatin accessibility studies.



Oxford Nanopore Technology pioneers an innovative era in DNA/ RNA sequencing technology that provides rich data that is fast, accessible, and easy to use. The Lasec® Group has partnered with ONT in East and West Africa.



MinION Mk1B

The pocket-sized MinION is a powerful and portable sequencing device that can deliver high volumes of long-read sequence data.



GridION

The benchtop GridION can run up to five MinION Flow Cells at a time, on-demand, for larger genomics projects.

PromethION

PromethION is the largest format for nanopore sequencing, designed to offer on-demand use of up to 48 flow cells—capable of delivering more than 10 Tb of sequence data in a full run—and is now being used in population-scale sequencing projects. The palm-sized PromethION 2 makes high-output nanopore sequencing broadly accessible.



The product images shown are for illustration purposes only and may not be an exact representation of the product.

E&OE

QUALITY CONTROLS AND VERIFICATION PANEL

Third-party molecular external quality controls for use by laboratories to monitor the continued performance of their multiplex assays. These controls are aligned with the most accurate and up-to-date information available to provide the industry and public with novel, dependable and reliable quality control products.



Control Categories

Respiratory

Gastro-Intestinal (GI)

Women's Health & STIs

Critical Infectious Diseases

Healthcare-Associated Infections

SEROCONVERSION AND VERIFICATION PANELS FOR ASSAY DEVELOPMENT AND QC SEROCONVERSION / LONGITUDINAL PANELS

ZeptoMetrix® Seroconversion / Longitudinal Panels are intended for use by diagnostic manufacturers, researchers, and clinical laboratories to develop, evaluate, and / or troubleshoot new and existing assays. The panels are organised as longitudinal (single donor specimens collected during the course of infection progression) or seroconversion (single donor specimens collected from donors prior to and continuing through disease progression) and allow for the detectability of multiple diagnostic markers as they appear over time.

Zeptomatrix offers 160+ seroconversion panels. Each panel contains characterised samples with analytical data, provided for comparative analyses.

SeroDetect® Verification Panels

Designed to meet CLIA Assay Verification Requirements. ZeptoMetrix® SeroDetect® Verification Panels are practical standardised solutions for laboratory training, new kit / reagent lot validation, and monitoring of assay performance.



PROTEOMICS

Life sciences research relies significantly on the study of biomolecules. Proteins, in particular, play crucial roles in various biological processes, and understanding their functions provides valuable insights into health and disease. For dependable protein characterisation, precise protein quantitation, effective protein expression and purification methodologies as well as multiplex solutions. Lasec® offers a range of tools and helpful tips that cater to researchers' diverse needs.

BIO-PLEX MULTIPLEX IMMUNOASSAY SYSTEMS

The Bio-Plex System offers high-performance readers, industry-leading software, and sensitive assays in ready-to-use or custom configurations, enabling you to obtain high-quality data from limited samples. This system makes use of assays, kits and reagents that utilise magnetic beads for the quantification of over 450 biologically relevant targets. This includes assays for inflammation, disease, cancer, cell signaling and growth, apoptosis, toxicity, and more.

CHROMATOGRAPHY SYSTEMS

Our Next Generation Chromatography (NGC) automatic liquid chromatography systems for purification of biomolecules in laboratories have an intuitive software package and are versatile, customisable and scalable to user specifications. These NGC systems provide a comprehensive laboratory solution for researchers, developers, and laboratory personnel. Capabilities included in all NGC Systems are a choice of 10 ml / min or 100 ml / min pumps, mixer module with multiple mixer barrel options (750 µl, 2 ml, 5 ml, 12 ml), automated sample injection valve, ChromLab Software, and a touch screen.



Chromatography Resins

A selection of resins are available for separation by ion exchange, hydroxyapatite and fluoroapatite, affinity, size exclusion (gel filtration), and hydrophobic interaction chromatography.

- 1. Affinity Resins (AF):** Purify affinity-tagged proteins, monoclonal antibodies, and other biomolecules with a range of affinity resins including immobilised metal affinity chromatography (IMAC), Protein A, and activated resins.
- 2. Ion Exchange Resins (IEX):** Purify charged and polar molecules with anion and cation exchange (AEX, CEX) chromatography resins available in various particle sizes, ionic forms, and binding capacities.
- 3. Mixed-Mode Resins (MM):** Experience unparalleled selectivity, resolution, yield and ease-of-use for a variety of biomolecules with the unique separation properties of our multimodal chromatography resins.
- 4. Hydrophobic Interaction Chromatography Resins (HIC):** Separate biomolecules that have weak or strong hydrophobic regions from contaminants with resins of various strengths.



ELECTROPHORESIS AND BLOTTING

Perform DNA and protein analysis efficiently and reliably, using our diverse selection of instruments, precast gels, and reagents.

Buffers and Reagents

The quality of your electrophoresis results can be positively influenced by the careful choice of both reagents and equipment. Bio-Rad has developed specialised reagents for electrophoresis, including premixed DNA electrophoresis buffers, electrophoresis gel-forming reagents, and individual buffer components.

Premixed DNA electrophoresis buffers are made with high-purity reagents, making them easy to prepare and ensuring reproducible results.

You can simplify sample preparation and save time with the premixed DNA sample loading buffer, which contains two electrophoresis tracking dyes and glycerol in Tris buffer.

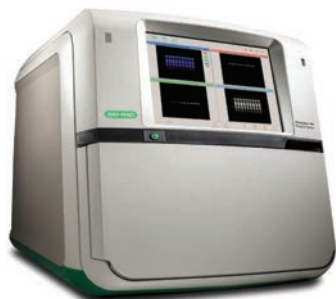
DNA electrophoresis reagent packs, available in small, medium, and large sizes, are designed to simplify the preparation and pouring of agarose gels, with convenient premixed buffers that guarantee reproducible results.



Gels and Standards

- **Horizontal Electrophoresis Precast Gels:** Choose from a variety of precast ready agarose gels in mini, wide, or 96-well DNA electrophoresis gels in 1% or 3% agarose, TBE or TAE buffer, with or without ethidium bromide formats.
- **Mini-PROTEAN TBE Precast Gel:** Mini-PROTEAN TBE precast gels are suitable for electrophoresis of nucleic acids from 50 to 2,000 base pairs. They are ideal for analysis of the purity of PCR products, standard dsDNA analysis, and RNase protection assays.
- **Mini-PROTEAN TBE-Urea Precast Gel:** Mini-PROTEAN TBE-Urea precast gels maintain denaturing conditions for analysis of single-stranded DNA and RNA. Nucleic acids between 60 and 200 bases are resolved as sharp, distinct bands.
- **Criterion TBE Precast Gels:** TBE gels are suitable for electrophoresis of nucleic acids from 50 to 2,000 base pairs; they are ideal for the evaluation of the purity of PCR products and standard DNA analyses.
- **Criterion TBE-Urea Precast Gels:** TBE-urea gels maintain denaturing conditions for analysis of single-stranded DNA and RNA between 60 and 200 bases. Designed for the traditional 13.3 x 8.7 cm mini vertical format.
- **Nucleic Acid Rulers / Ladders:** Nucleic acid standards include molecular rulers with evenly spaced banding patterns (DNA ladders), EZ Load standards premixed with loading buffer, and specialty products, such as pulsed field standards.

Imaging Systems



ChemiDoc™

The ChemiDoc™ Imaging System provides fast, reliable, and sensitive imaging and documentation of gels and chemiluminescence western blots. This system is compatible with stain-free technology, chemiluminescence detection, and a wide range of gel stains such as ethidium bromide, SYPRO® Ruby, coomassie, and silver stains. The ChemiDoc™ Imaging System can be upgraded to gain the full fluorescent western blotting capabilities of the ChemiDoc™ MP System.

ChemiDoc™ MP

The ChemiDoc™ MP Imaging System is a full-feature instrument for imaging and analysing gels and western blots. It is designed to address multiplex fluorescent western blotting, chemiluminescence detection, general gel documentation applications, and stain-free technology imaging needs.



GelDoc™ Go

The GelDoc™ Go Imaging System gives you a compact benchtop imaging solution in an evolved package. Acquire high-resolution, publication-quality images of both nucleic acid and protein gels.

Nucleic Acid Electrophoresis

- **Horizontal Electrophoresis Systems:** Sub-Cell family of submerged horizontal electrophoresis cells enable versatile, multiple-sample, and rapid-screening DNA applications on precast or handcast gels in a variety of different gel sizes.
- **Vertical Electrophoresis Systems:** Electrophoresis cells and precast polyacrylamide gels are offered for high-resolution separation of nucleic acids in mini and midi formats. The gels are available in different sizes and buffer formulations.
- **Power Supplies:** From basic to high-voltage capacity, our power supplies provide simple programming in a compact, stackable case.

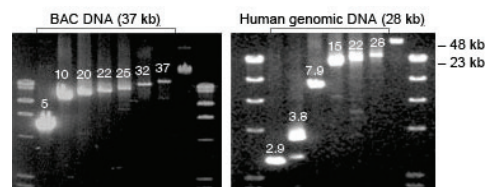


PLATE READERS

We have single and multi-mode microplate solutions to assist with a wide array of laboratory applications.

Absorbance Microplate Readers

Conduct discrete, end-point measurements by utilising alterations in sample parameters as substitutes for inherent characteristics of biological substances. This method enables rapid determination of protein, RNA, and DNA concentrations.



Multi-Mode Microplate Readers

Achieve high-throughput screening by utilising this combined absorbance, luminescence and fluorescence system. This involves automating workflows and incorporating dynamic labels to screen and characterise large numbers of samples through cutting-edge assays, with a focus on throughput, miniaturisation, and flexibility to add or develop new assays based on emerging technology.



PURIFICATION

Choose from our diverse selection of DNA / RNA / Protein extraction products that have been optimised for both manual and automated scientific workflows.

AUTOMATED

We offer automated systems for extracting DNA / RNA from start to finish; sample to eluate. Our instruments will simplify your daily workflow with their own distinguishing features and patented magnetic bead purification technology. Models available to cater for a throughput of 16 or 48 samples.



MANUAL

Our manual solutions include different kits to meet any sample need (simple samples such as blood / saliva or complex samples such as plants / stool) to produce purified samples ready-for-use in molecular applications such as PCR, microarrays, NGS, pathogen detection etc. These manual solutions are available in spin column or 96 well format.





CAPE TOWN

52 Old Mill Road
Ndabeni
Cape Town
7405

+27 21 531 7504

JOHANNESBURG

48 Gazelle Crescent
Gazelle Place
Corporate Park South
Randjiespark
Midrand
1685

+27 11 052 2500

DURBAN

Unit 3, Windsor
Court, Ground Floor
AFS House, 4 Derby
Place, Derby Downs
Westville
3629

+27 31 702 6001

PORT ELIZABETH

Unit 5.1, Building 3
Ascot Office Park
Block 7
Conyngham Street
Greenacres
6001

+27 41 373 9173

BLOEMFONTEIN

53 President Steyn
Avenue
Westdene
Bloemfontein
9301

+27 51 447 9500

PLEASE DIRECT ALL ENQUIRIES FROM OUTSIDE SOUTH AFRICA TO:

 52 Old Mill Road, Ndabeni, 7405, Cape Town PO Box 2110, Cape Town, 8000

 www.lasec.com

 +27 21 531 7504

 sales@lasec.com

 international@lasec.com