



Life Science Research  
DNA Analysis



# DNA Analysis



## Description

**Vector or plasmid production:**  
Vector design and construction

**Genotyping, strain typing:** DNA isolation and purification from tissues, cell cultures, or bacterial cells

**Vector or plasmid production:** Recombinant DNA purification from host

## Applications

Genotyping  
Vector or plasmid production  
Strain typing

## Technologies

Nucleic acid electrophoresis  
Image analysis  
PCR

Nucleic acid sample preparation  
Spectrophotometry and fluorometry  
Automated nucleic acid electrophoresis

## Related Products



Wide mini ReadySub-Cell™ GT cell  
ReadyAgarose™ 96 Plus gels  
Molecular Imager® Gel Doc™ XR system  
Quantity One® 1-D analysis software  
Ethidium bromide



**Genotyping**  
Quantum Prep® plasmid miniprep kit  
AquaPure™ genomic DNA isolation kit  
Chelex® 100 resin

**Vector or Plasmid Production**  
Quantum Prep plasmid miniprep kit  
AquaPure genomic DNA isolation kit  
SmartSpec™ Plus spectrophotometer  
Experion™ automated electrophoresis system



**Genotyping:** Amplification of specific gene targets  
**Vector or plasmid production:** Validation of construct by mutation detection and/or sequence analysis

- PCR
- Quantitative PCR (qPCR)
- Nucleic acid electrophoresis
- Nucleic acid sequencing
- Gel drying
- Mutation analysis



- Genotyping**
- MiniOpticon™ real-time PCR system
  - MyiQ™ single-color real-time PCR system
  - iQ™5 multicolor real-time PCR system
  - iQ™ supermix
- Vector or Plasmid Production**
- Sequi-Gen® GT system
  - PowerPac™ HV power supply
  - Model 583 and HydroTech™ gel drying systems

**Genotyping:** Electrophoresis and further characterization, including specific mutation analysis, SNP mapping, and strain typing

- Nucleic acid electrophoresis
- Mutation analysis
- Image analysis
- Nucleic acid blotting
- Multiplex suspension array technology — nucleic acid
- Spectrophotometry and fluorometry
- ELISA
- Data analysis and bioinformatics



- CHEF Mapper® XA system
- DCode™ system for DGGE
- ReadyAgarose 96 Plus gels
- Molecular Imager Gel Doc XR system
- EZ Load™ HT molecular markers
- VersaFluor™ fluorometer
- Quantity One 1-D analysis software
- Bio-Plex® 200 system with HTF
- Benchmark™ Plus microplate spectrophotometer system

The search for mutations in genomic DNA is important in the study of genetic factors involved in the development of cancer, as well as in a variety of single- and multiple-gene disorders. DNA polymorphisms are useful tools for ecological and evolutionary studies of terrestrial, marine, and microbial organisms, with applications ranging from species identification to delineation of population structure and monitoring of genetic diversity. Bio-Rad has a long history of providing high-quality reagents, devices, and software for high-resolution analysis of DNA, as well as expert support and protocol development tools.

For a complete list of products and related product information, refer to the 2006/2007 catalog, visit us on the Web at [www.bio-rad.com](http://www.bio-rad.com), or contact your local Bio-Rad representative.

### Ordering Information

Catalog #	Description	Catalog #	Description
<b>Construction</b>		<b>Detection and Analysis</b>	
170-4489	<b>Wide Mini ReadySub-Cell GT Cell</b> , includes buffer tank, lid and electrodes, leveling bubble; accommodates 20-well, 32-well, and 2 x 32-well wide mini ReadyAgarose gels	Varies	<b>CHEF Mapper XA Chiller System</b>
Varies	<b>ReadyAgarose 96 Plus Gels</b> , TBE, plus ethidium bromide, 4 x 26-well (96 plus)	Varies	<b>CHEF-DR<sup>®</sup> III System</b>
Varies	<b>ReadyAgarose 96 Plus Gels</b> , TAE	170-9080	<b>DCode System for DGGE</b> , 120 V, for 16 cm gels with single prep well (1 mm), includes comb gasket, 2 sets of clamps, Model 475 gradient former, all parts required to cast gradient gels
170-8170	<b>Molecular Imager Gel Doc XR System</b> , PC	170-9081	<b>DCode System for DGGE</b> , 220/240 V, for 16 cm gels with single prep well (1 mm)
170-8171	<b>Molecular Imager Gel Doc XR System</b> , Mac	170-9082	<b>DCode System for DGGE</b> , 100 V, for 16 cm gels with single prep well (1 mm)
170-9600	<b>Quantity One 1-D Analysis Software</b>	170-9083	<b>DCode System for DGGE</b> , 120 V, for 10 cm gels with 2 prep wells (1 mm)
161-0433	<b>Ethidium Bromide Solution</b> , 10 mg/ml, 10 ml	170-9084	<b>DCode System for DGGE</b> , 220/240 V, for 10 cm gels with 2 prep wells (1 mm)
161-0430	<b>Ethidium Bromide Tablets</b> , 10 x 10 mg	170-9085	<b>DCode System for DGGE</b> , 100 V, for 10 cm gels with 2 prep wells (1 mm)
161-0786	<b>Bio-Safe<sup>™</sup> Coomassie Stain</b> , 1 L	164-5050	<b>PowerPac Basic Power Supply</b>
170-9703	<b>MyCycler Thermal Cycler System</b>	170-8361	<b>EZ Load HT Molecular Marker</b> , 100 bp–2 kb, 160 applications
<b>Sample Preparation</b>		170-8362	<b>EZ Load HT Molecular Marker</b> , 500 bp–10 kb, 160 applications
732-6100	<b>Quantum Prep Plasmid Miniprep Kit</b> , 100 preps	165-5003	<b>Model 185 Vacuum Blotter Basic Unit</b>
732-6340	<b>AquaPure Genomic DNA Isolation Kit</b> , for cultured cells and gram-negative bacteria	170-2402	<b>VersaFluor Fluorometer</b> , includes standard cuvette holder, 100 standard cuvettes, choice of 1 excitation and 1 emission filter
142-1253	<b>Chelex 100 Resin</b> , molecular biology grade, 50 g	170-9610	<b>Quantity One Version Upgrade</b>
170-2525	<b>SmartSpec Plus Spectrophotometer</b>	170-9612	<b>Quantity One User Guide</b>
700-7060	<b>Experion System With Computer and Monitor</b>	170-9615	<b>Quantity One CFR Module</b>
<b>Validation</b>		170-9300	<b>FPQuest<sup>™</sup> Software</b>
CFB-3120	<b>MiniOpticon Real-Time PCR System</b> , includes optical housing, MJ Mini thermal cycler, analysis software	171-000201	<b>Bio-Plex 200 System</b>
170-9770	<b>MyiQ Single-Color Real-Time PCR Detection System</b> , includes iCycler base, optics module, software CD-ROM, 96-well optical reaction module, optical-quality 96-well PCR plates, Microseal 'B' seals, communication cables, power cords, instructions	171-000205	<b>Bio-Plex 200 System With HTF</b> , includes high-throughput fluidics (HTF)
170-9780	<b>iQ5 Multicolor Real-Time PCR Detection System</b> , includes iCycler base, optics module, software CD-ROM, 5 installed filter sets, 96-well reaction module, calibration solutions, optical-quality 96-well PCR plates, Microseal 'B' seals, communication cables, power cord, quick reference cards, instructions	170-6930	<b>Benchmark Plus Microplate Spectrophotometer System</b> , PC, with temperature control, power cord, serial cable, Microplate Manager software, instructions
170-8860	<b>iQ Supermix</b> , 100 x 50 µl reactions	170-6935	<b>Benchmark Plus Microplate Spectrophotometer System</b> , PC, without temperature control
165-3802	<b>Sequi-Gen GT System and PowerPac HV Power Supply</b> , 21 x 40 cm		
165-3803	<b>Sequi-Gen GT System and PowerPac HV Power Supply</b> , 21 x 50 cm		
165-3804	<b>Sequi-Gen GT System and PowerPac HV Power Supply</b> , 38 x 50 cm		
165-3810	<b>Sequi-Gen GT System and PowerPac HV Power Supply</b> , 38 x 30 cm		
164-5056	<b>PowerPac HV Power Supply</b>		
165-1745	<b>Model 583 Gel Dryer</b> , 100/120 V		
165-1746	<b>Model 583 Gel Dryer</b> , 220/240 V		
165-1789	<b>HydroTech Gel Drying System</b> , 100/120 V, includes Model 583 gel dryer, HydroTech vacuum pump, instructions		
165-1790	<b>HydroTech Gel Drying System</b> , 220/240 V		

Coomassie is a trademark of BASF Aktiengesellschaft.

Bio-Rad's real-time thermal cyclers are licensed real-time thermal cyclers under Applera's United States Patent No. 6,814,934 B1 for use in research and for all other fields except the fields of human diagnostics and veterinary diagnostics.

The Bio-Plex suspension array system includes fluorescently labeled microspheres and instrumentation licensed to Bio-Rad Laboratories, Inc. by the Luminex Corporation.

CHEF (U.S. Patent 5,549,796, issued to Stanford University) is exclusively licensed to Bio-Rad Laboratories, Inc.

DR technology is covered by U.S. Patent 4,878,008, issued to Bio-Rad Laboratories, Inc.

**Bio-Rad  
Laboratories, Inc.**

Life Science  
Group

Web site [www.bio-rad.com](http://www.bio-rad.com) USA 800 4BIORAD Australia 61 02 9914 2800 Austria 01 877 89 01 Belgium 09 385 55 11 Brazil 55 21 3237 9400 Canada 905 712 2771 China 86 21 6426 0808 Czech Republic 420 241 430 532 Denmark 44 52 10 00 Finland 09 804 22 00 France 01 47 95 69 65 Germany 089 318 84 0 Greece 30 210 777 4396 Hong Kong 852 2789 3300 Hungary 36 1 455 8800 India 91 124 4029300 Israel 03 963 6050 Italy 39 02 216091 Japan 03 5811 6270 Korea 82 2 3473 4460 Mexico 52 555 488 7670 The Netherlands 0318 540666 New Zealand 0508 805 500 Norway 23 38 41 30 Poland 48 22 331 99 99 Portugal 351 21 472 7700 Russia 7 495 721 14 04 Singapore 65 6415 3188 South Africa 27 861 246 723 Spain 34 91 590 5200 Sweden 08 555 12700 Switzerland 061 717 95 55 Taiwan 886 2 2578 7189 United Kingdom 020 8328 2000