



CUSTOM SERVICES & CAPABILITIES

Introduction

Rockland Immunochemicals, Inc. is a global biotechnology company specializing in the development and production of custom antibodies, immunoassays, and cell-based assays for academic, biopharma, diagnostic, and agbio industries. Rockland offers flexible, end-to-end solutions tailored to meet the unique research and development needs of each customer. With state-of-the-art manufacturing facilities near Philadelphia, Pennsylvania, Rockland is strategically positioned to collaborate with leading pharmaceutical companies and top-tier research institutions both locally and around the globe.



Contract Manufacturing Organization

As a trusted CMO, Rockland supplies critical reagents to leading manufacturers of both research and clinical laboratory assays. Our product portfolio includes:

- Bulk IgG fractions and gamma globulins
- Enzyme substrates and detection reagents
- Primary and secondary antibodies
- Custom antibody conjugates with dyes, enzyme, or magnetic particles

Rockland's scalable manufacturing capabilities range from small-batch production to kilogram-scale output, with full compliance to strict raw material and quality specifications. We also offer end-to-end solutions across:

- Small to large-scale manufacturing
- Protein and peptide production
- Custom modifications and conjugation services

Contract Research Organization

As a CRO, Rockland provides GLP-compliant services in antibody development, characterization, assay design, and cell-based assay performance. Our expert scientists have contributed to the development of accepted methods for immunochemistry and continue develop, validate, and transfer cutting-edge techniques to support bioanalytical labs across the biopharmaceutical and diagnostic sectors. Our CRO capabilities include:

- Antibody development and characterization
- Cell-based assay development and validation
- Cell line generation and molecular biology services
- Custom ELISA design and optimization
- Biomarker discovery and validation
- Flow Cytometry and Mass Spectrometry-based analyses
- Immunogenicity and neutralizing antibody testing

Monoclonal Antibody Development

Each monoclonal project is performed in stages, allowing our clients to decide on when to proceed to each project stage. Rockland's custom monoclonal antibody services can meet all of our customers' specific needs in any stage of the research process.

Custom Monoclonal Antibody Development Process

With decades of experience, Rockland specializes in producing monoclonal antibodies from a variety of host species, including mouse, rat, and Armenian hamster. Our advanced electrofusion technology enables large quantities of hybridoma clones to be generated from each fusion experiment. Rockland's electrofusion technology and screening processes are optimized to deliver fit-for-purpose antibodies against the most difficult targets.



Pre-fusion Screening: Our team closely monitors the antibody-mediated immune response to guide optimal fusion of splenocytes. Upon request, clients can receive pre-bleed antiserum sample (<0.5 mL) for preliminary screening prior to fusion initiation.

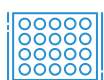
Immunization: We offer flexible immunization schedules and custom adjuvant formulations based on client needs and target complexity for a more directed and effective immune response.

Hybridoma Screening: For peptide-based immunogens, Rockland applies propriety, modified ELISA methods to accelerate the identification of high-specificity hybridomas. Additional screening against primary targets or additional antigens can be performed upon request to ensure antibody performance meets your exact specifications.

Monoclonal Antibody Development Workflow



**Immunization &
Immune Response**
(7-9 weeks)



**Electrofusion,
Expansion, & Screening**
(4-6 weeks)



**Subcloning, Expansion,
& Cryopreservation**
(4-6 weeks)

Cell Banking/Cryopreservation Services

Rockland provides customized cell banking solutions designed to ensure the long-term viability, integrity, and traceability of critical cell lines. Our expert team creates both master cell banks and working cell banks tailored to each client's specific research or manufacturing requirements. Services can be expanded to include cell line stability testing, storage, and characterization.

Cryopreservation of Parental Cell Lines:

Reliably relaunch a new culture from the original source to take your project in a new direction or test the effects of new conditions.

Working Cell Banks:

Short-term storage: store 10-25 vials of cells, which are produced, tested for viability, and stored in liquid nitrogen and monitored for 2 years.

Master Cell Banking:

Longer term storage: store 10-200 vials of cells, which are produced, tested for viability, and stored in liquid nitrogen and monitored for 2 years.

Cell Pellets & Lysates:

After cell expansion, we collect the cells, pellet and freeze them. We can immediately send you the frozen cell pellets, or store them at our facility and we will lyse them for you as needed.

Analytical Testing

Request Rockland's testing services to ensure your cells are viable, stable, and free from mycoplasma.

Mycoplasma Testing:

We use multiple methods to evaluate potential contamination of cell lines with mycoplasma. Our test methods can evaluate the biological activity or the presence of DNA from all the common mycoplasma species.

MAP Testing:

Immunologically-based methods are used to detect murine viral contaminants in cell lines and other biologic materials. This involves exposing susceptible host animals to test samples, followed by serological assays for assessing immune responses to potential viral agents.

Antibody Purification

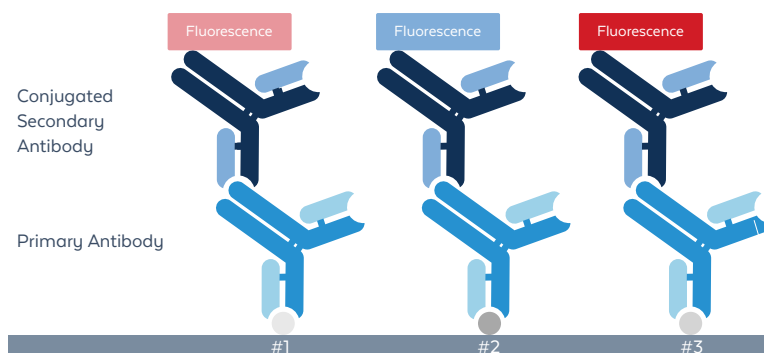
Commercially produced antibodies often contain host proteins and other impurities that can compromise experimental results. To ensure accuracy and performance, Rockland offers a range of custom and standard antibody purification services.

We routinely purify polyclonal and monoclonal antibodies using Protein A, Protein G, or Protein A/G affinity chromatography under optimized conditions. For enhanced specificity, we also develop custom affinity resins by immobilizing target-specific peptides or recombinant proteins—ideal for precise antibody isolation, antiserum enrichment, or serum depletion.

Conjugation Services

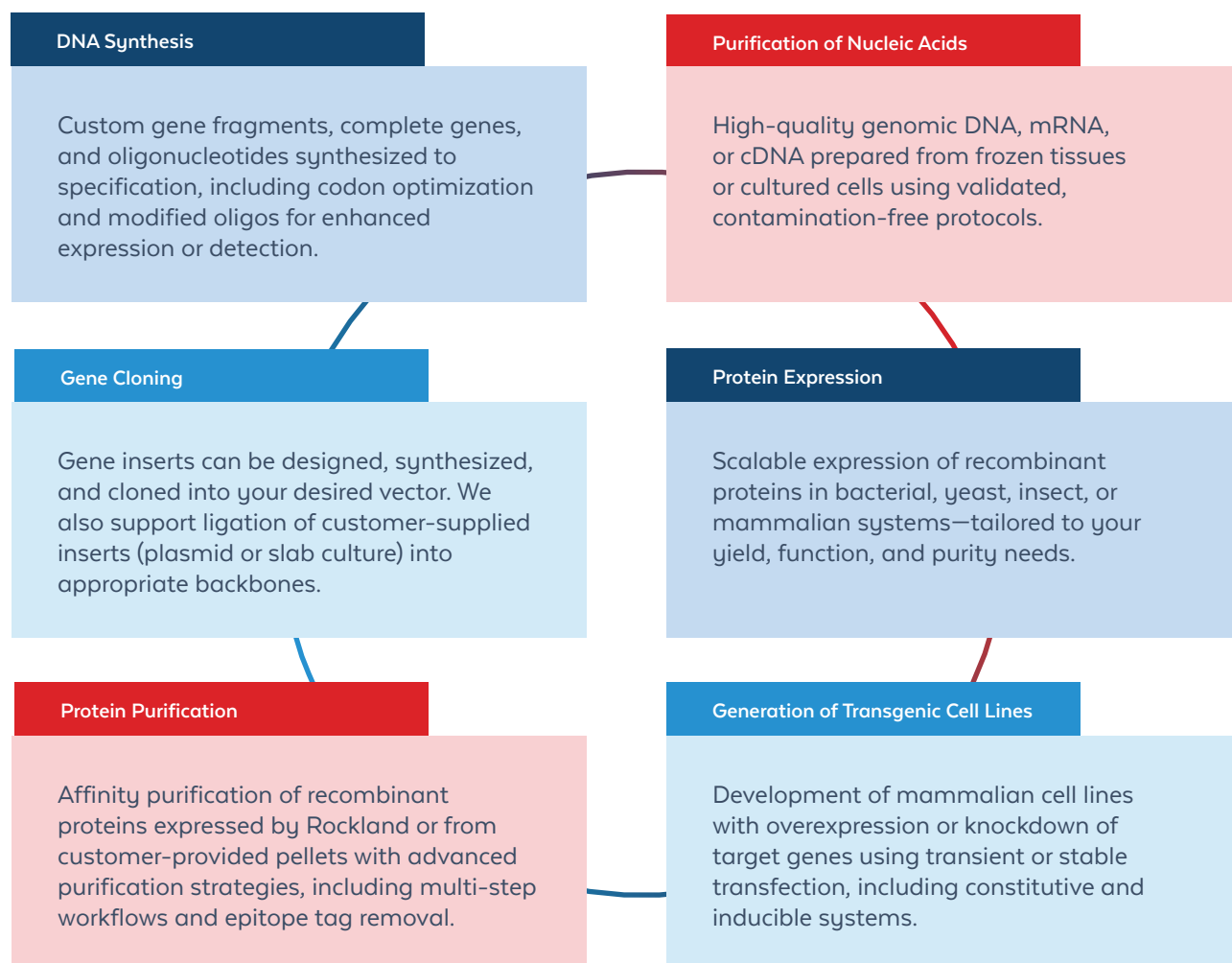
Rockland provides customizable, on-demand conjugation services to meet specific research, development and manufacturing needs of both primary and secondary antibodies and associated proteins.

- Peroxidase (HRP)
- Biotin
- Alkaline Phosphatase (AP)
- Fluorescent Dyes



Molecular Biology Services

Rockland offers end-to-end molecular biology services to support your research, assay development, or biologic production. Whether you need gene synthesis, cloning, protein expression, or the generation of stable cell lines, our team delivers quality, customized solutions designed to meet your exact specifications.



Immunoassay Development

Rockland provides full-service immunoassay development that bridges the gap between discovery and product. With deep scientific expertise and decades of experience, we support your basic, translational, and clinical research goals through the design and optimization of fit-for-purpose in vitro assays.

Whether you're validating a novel biomarker, optimizing a diagnostic platform, or designing assays to support biologic development, Rockland offers customized solutions at every stage—from antibody generation to assay validation and regulatory support.

Assay Design & Optimization

- Custom ELISA formats
- Immunohistochemistry and immunofluorescence
- Western blot and flow cytometry

Analytical Validation

- Assay qualification and method validation
- Bridging studies
- Accelerated stability studies

Regulatory Support

- GLP-compliant documentation
- Data packages for preclinical or diagnostic submission

Polyclonal Antibody Development

With over 40 years of experience, Rockland delivers high-quality, custom polyclonal antibodies using a wide range of host species, including rabbits, goats, sheep, guinea pigs, chickens, rats, and donkeys. Our flexible workflows support every stage of the process—from antigen design to final antibody purification.

Whether you need antigenic peptide design or are working with recombinant protein antigens, Rockland offers tailored solutions to meet your immunization and screening requirements. Peptides are routinely conjugated to KLH or other carrier proteins to enhance immunogenicity, while recombinant proteins can be expressed in bacterial or insect cell systems for robust antibody generation. Clients may choose complete end-to-end development or select individual services such as:



Antigen Design & Synthesis



Host Immunization & Antisera Collection



Affinity Purification & Characterization

Let Rockland help you generate reliable, high-performing polyclonal antibodies for your immunoassay, diagnostic, or research application.

Mass Spectrometry Services

Rockland offers advanced mass spectrometry (MS) services to support protein and peptide analysis with high sensitivity and specificity. Whether you need identification of a single protein or comprehensive proteome profiling, our team delivers reliable, data-driven insights tailored to your research needs.

Protein Identification: From purified proteins, gel bands, or complex mixtures using LC-MS/MS or MALDI-MS.

Peptide Mapping: Reverse-phase HPLC separation and analysis of tryptic peptides.

Post-Translational Modification Analysis: Detection of phosphorylation, ubiquitination, methylation, and other modifications.

Comparative Proteomics: Quantitative comparison of protein expression across related samples.

Rockland's team can advise on the best MS strategy—Gel/LC-MS/MS, MudPIT, or custom workflows—to support your discovery, development, or characterization goals.

Bioprocessing Support

Rockland provides high-quality, process-specific reagents to support critical testing in pharmaceutical and biopharmaceutical development. With decades of experience in reagent design and validation, we help streamline your process development, quality control, and regulatory workflows. Our scientific expertise and proven reliability make Rockland a trusted partner for custom and off-the-shelf analytical tools.

HCP Antibody Generation Timeline

Setup

■ Antigen Preparation

Immunization & Boost

■ Repeat Boost Period

Reagent Generation

■ Test Bleeds

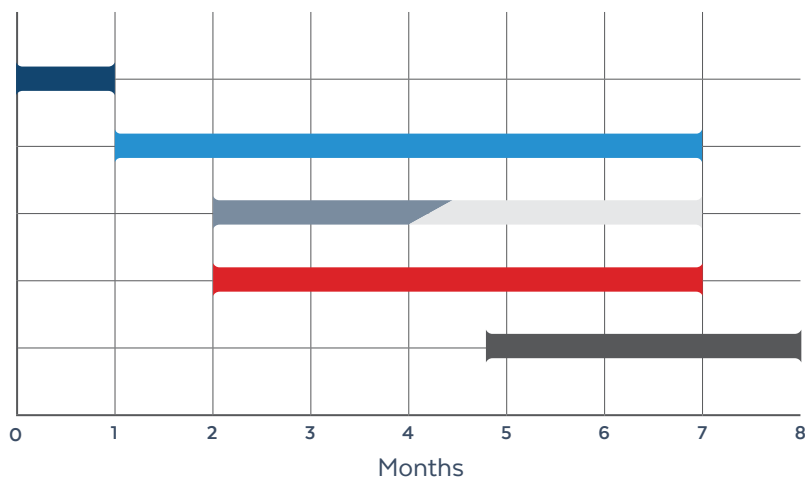
■ Production Bleeds

Sampling & Analysis

■ ELISA & Western Blot

Reagent Qualification

■ 2D Western Blots



Rockland Immunochemicals, Inc.

For over 60 years, Rockland has supported the research, diagnostic, and biopharma communities by providing the highest quality antibodies, assays, and research services including primary and secondary antibodies, chemiluminescent substrates, custom polyclonal and monoclonal antibody production, and assay development.

Rockland antibodies, substrates, buffers, and services adhere to QSR / cGMP with full reporting and traceability (CFR:21H part 820), as well as optional analysis options that include ELISA, WB, IF, IHC, HPLC, and SDS-PAGE (1-D, 2-D).

Protect your experiment with Rockland antibodies and services.



+1 484.791.3823
P.O. Box 5199
Limerick, PA 19468, USA
sales@rockland.com
www.rockland.com

