

# Bioservices

Your lab just got bigger



## Expansive bioservices with a global advantage

Lonza Bioservices emphasizes accuracy, precision and specificity to provide shortened delivery times and increased cost effectiveness.

### *In-vitro Assays*

Obtain critical results faster with Lonza's *in-vitro* bioassays. Our cost-effective services can be performed under cGMP, GLP or research conditions and include:

- Technical transfer
- Development
- Qualification
- Validation
- Identity testing
  - Raw material testing
- Release testing
  - Potency
- Analytical testing
  - Purity
  - Identity
  - Residual protein

### Bioassays

- Cell proliferation
- Cell permeability
- Apoptosis
- Cell differentiation
- Cytotoxicity
- Cytokine analysis
- Receptor activation and cell signaling
- Neutralization
- Immunoassay
- Other biological parameters

### *In-vivo Assays*

Fulfill the requirements of clinical production with Lonza's *in-vivo* assays. Our assays offer integral information about safety and toxicity and are performed under GLP formats.

- Inapparent Viruses
- Tumorigenicity
- General Safety
- Pyrogenicity Testing



Lonza supports a variety of *in-vivo* delivery methods to meet your needs.

- Intrathecal
- Intratracheal
- Intrapulmonary
- Oral
- Intravenous
- Subcutaneous
- Intraperitoneal
- Intramuscular
- Intracerebroventricular

#### Custom Reagents

Lonza Bioservices offers a variety of customized products, including immunoreagents, blood products and pathogens. Manufactured under cGMP, or for research applications, our custom reagents benefit from Lonza's world renowned manufacturing experience.

Immunoreagent manufacturing

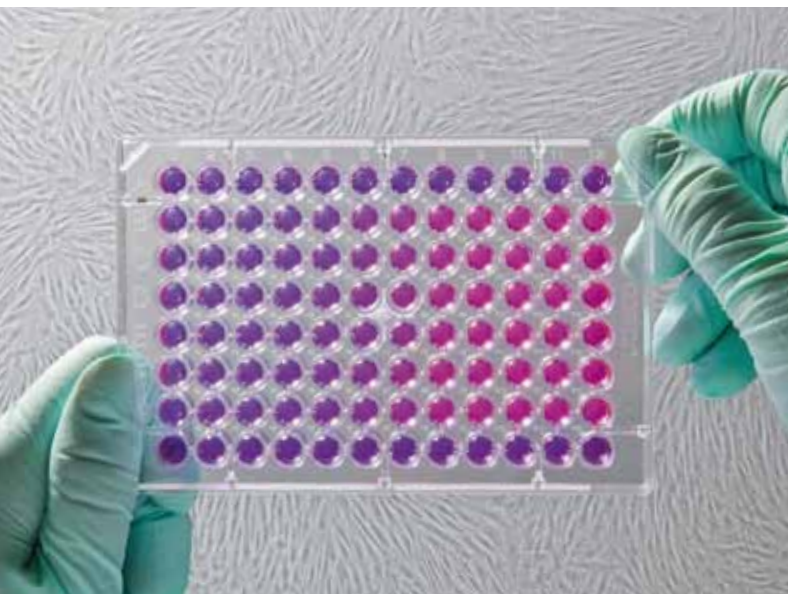
- Polyclonal antisera
- Purified antibodies
- Conjugated antibodies

Pathogen manufacturing

- Pathogen production
- Virus production

Expanded blood products capability

- Whole blood
- Plasma
- Serum
- Polyclonal antisera
- Monospecific antibodies
- Conjugated antibodies
- Complement
- Albumin



### More from Lonza

- Pre-formulation services including lyophilization
- Comprehensive raw material testing including complete, compendial analysis, TOC analysis, GC, HPLC and IC analysis, UV spectroscopy, pharmaceutical water testing, Fournier transform-infrared spectroscopy, elemental analysis (AA, GFAA, ICP/MS, ICP), arsenic, heavy metals, Karl Fischer, and thermogravimetric analysis
- Characterization using SDS-PAGE, western blot, isoelectric focusing, chromatography (ion exchange, hydrophobic interaction, size-exclusion), capillary electrophoresis, Bradford protein assay, BCA, spectrophotometric analysis, extinction coefficients, ELISA, and electrospray MS
- Bulk API synthesis
- Method development and validation
- Analytical development and QC
- Residual/impurity testing for antibiotics, protein, residual solvents, extractables/leachables, metals/ions, and endotoxins
- Stability including method validation, protocol development, HPLC, GC, IC and GPC analysis, physical testing, LC/MS/MS analysis, GC/MS analysis, and moisture analysis
- Lot release testing including product characterization, activity, identity, and contaminants



## Broader customization capabilities for bioassays and reagents

Whether you need a customized bioassay or critical bioreagent, Lonza's leading-edge scientists bridge decades of process innovation and integrated capabilities that enable you to outsource virtually any bioservices function with confidence. Lonza's experience in bioassays, custom reagents and pathogen production helps you gain extensive knowledge, eliminate repetition and optimize your resources.

Lonza provides you with integral multidisciplinary support, state-of-the-art GLP/cGMP-compliant facilities and a unique global advantage. We will help you stay on top of timelines and eliminate interruptions that can result with multiple outsourcing partners. Together, we can turn promising laboratory discoveries into successful product launches.



The capacity to deliver as-promised.

The depth to meet your custom needs.

The expertise to interpret the science.



### We deliver comprehensive bioservices by design

Lonza Bioservices can help at any point along your product development path with immediate support for specific biological assays or custom designed processes. When you need to secure quality, accelerate market entry and navigate constraints, Lonza is your premier partner.

We are driven to help you reduce the overall time and cost of product development. Our scientific expertise will help you attain your goals, knowing we can make a greater impact on world health together.







Add the bioservice support you need, today

#### Bioservices

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