

# Lonza CellBio Services

## Custom Solutions to Meet Your Unique Research Needs



Lonza CellBio Services including:

- Custom Cell Isolation Services
- Custom Cell Culture & Testing Services
- Custom Research Media & Reagents
- And More

## Satisfy Your Unique Research Needs

In an ever evolving field of biologic research, nuanced research requires tools which are not always readily and commercially available. For a researcher, solving these needs can be difficult due to a variety of reasons including material sourcing, technical knowledge, capacity, and the risk of production failure. Supported by decades of cell isolation and transfection experience, Lonza has built an extensive catalog offering consisting of quality primary cells, media, reagents and devices to assist in drug development and basic research. For when these tools are insufficient, partner with Lonza CellBio Services for tailored tools and custom services and let us help you meet your unique research needs.

## Custom Cell Isolation Services

Our staff with over 30 years of custom isolation experience is here to assist in determining the optimal method to isolate your desired cell type. With the capability to perform enzymatic digestions, mechanical separation, density gradient centrifugation, immunomagnetic separation, selective culturing, we are ready to find the ideal isolation method to yield optimal results. Isolations can be further optimized by utilizing Lonza's extensive range of cell culture media, alternative media. Final products can be available fresh (plated or suspension), cryopreserved (cell suspension or pellet), or further utilized for RNA/DNA isolation or immortalization services to suite your needs.

### Modifications to Existing Catalog Products

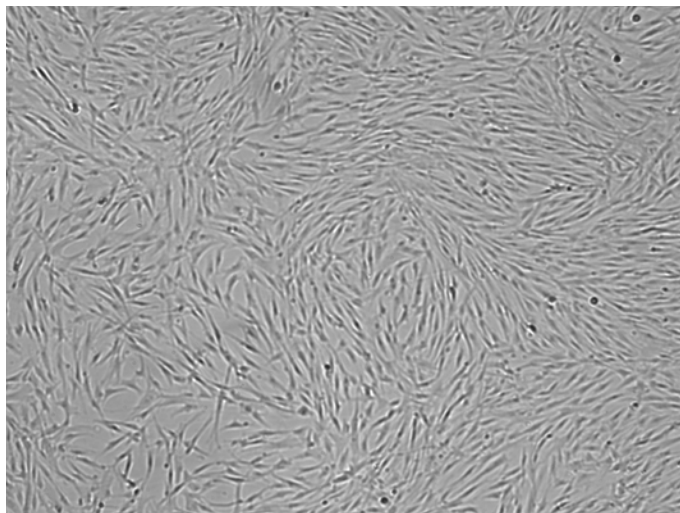
CellBio Services provides the option to manipulate our standard catalog products to suit your experimental needs. Examples include:

- Additional donor characteristics
- Donor-matched cell sets
- Pooled cells from multiple donors
- Cell expansions
- Additional testing

### Cell Isolations from Various Tissues

Through our extensive tissue sourcing, CellBio Services goes beyond our standard offering to provide cell types of interest from a variety of tissues. Each project adheres to the same ethical sourcing procedures and quality systems of Lonza Primary Cell Systems. Lonza can offer custom isolations from a wide range of tissue sources to meet your needs including:

- Species: human, primate, porcine, canine, feline, murine, and others
- Diseases: Diabetes, hypertension, heart disease, skin diseases (psoriasis, atopic dermatitis, etc.), lung diseases (cystic fibrosis, asthma, idiopathic pulmonary fibrosis, COPD, etc.), and more
- Donor Variety: Availability of specific donor characteristics including age, gender, ethnicity, BMI, etc



Lung Fibroblasts from donor with Idiopathic Pulmonary Fibrosis at P3

## Custom Research Media & Reagents

When standard catalog media offerings do not quite meet your research needs, CellBio Services provides the option to manipulate our standard catalog media products to suit your experimental research needs. Alternatively, CellBio Services can generate completely new media based on your supplied formulation. Our production facilities can accommodate custom research use only grade liquid formulation productions from 500 mL up to 10,000 L. If you prefer powder, our production facilities can accommodate custom research grade powder formulation productions from 1 kg to 7,000 kg. Examples include:

- Lonza primary and stem cell growth and differentiation media with added/removed components and/or in custom fill volumes or vessels
- Lonza Classical/Specialty media with added/removed components (i.e. SILAC or phenol red free media)
- Custom packaging (Vials, Bottles, Bags, Drums, etc)
- Custom fill sizes

## Custom Cell Culture & Testing Services

### Cell Line Expansion and Banking

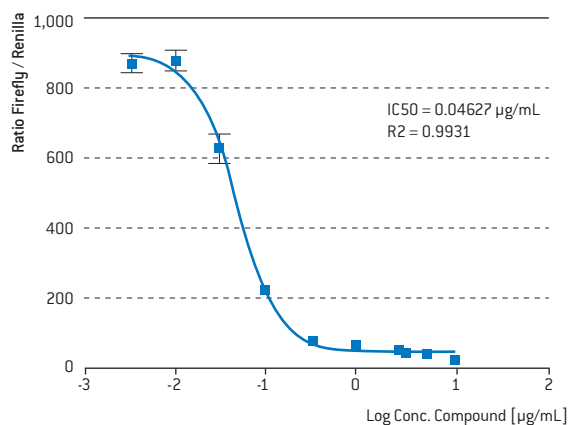
Use Lonza as an extension of your cell culture facility. Lonza's CellBio Services team can expand your primary cell or cell line according to specific standards and cryopreserve the cells in your preferred format. This will allow you to focus on your assays and results. We can provide:

- Expansions of adherent cell types in batches up to  $2 \times 10^{10}$  cells, or suspension cell types in batches up to  $5 \times 10^{10}$  cells
- Batch sizes up to 1500 vials
- Production capabilities in a variety of formats including CellStacks, culture flasks, closed system and suspension cultures (up to 12L)
- Generation of master and working cell banks
- Batch Testing and CoA generation

## Cell Characterization & Batch Screening

The CellBio Services team has extensive cell biology expertise. Harness this experience and let us perform your functional cell testing of proteins or small molecules with existing or custom assay protocols. This can be performed on the recombinant cell lines we have generated, or a specific primary cell type in either 2D or 3D Cell Culture Systems. Additionally, allow Lonza to perform the batch screening tests you require before committing to a lot of Lonza's catalog primary cells. We offer:

- Pre-screening/batch testing of Lonza primary cells
- Compound testing
- Small scale functional assay testing with existing or custom protocols
- Assay optimization
- SOP generation

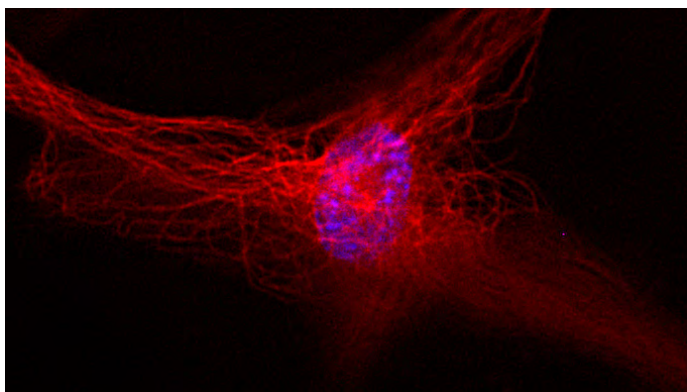


Compound treatment of sarcoma cells stably expressing an inducible luciferase reporter construct.

## RAFT™ 3D Culture Services

Lonza's RAFT™ 3D Culture System is designed to closely mimic the *in vivo* environment of cells within 96-well, 24-well insert, or 24-well plate formats. Utilizing Lonza's RAFT™ System, we can establish 3D Cell Culture Systems tailored to your needs, such as:

- Develop RAFT™ System protocols for your specific cell type
- Generate co-cultures and barrier models



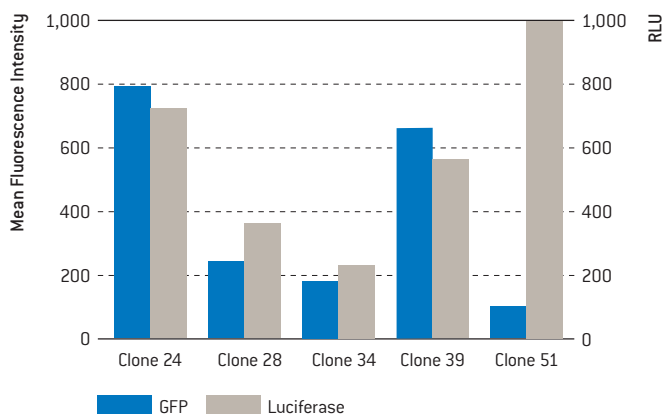
Dermal fibroblast fixed and stained after 11 days in RAFT™ System.

## Custom Transfection Services

### Generation of Recombinant Cells

CellBio Services offers creation of recombinant cell lines. Due to our focus and extensive experience using difficult and hard to transfect cell lines, we have successfully generated single-cell derived clones of cell lines such as sCHO, J774.A1, Jurkat, HL-60, THP-1, U937, K562, BJAB, MCF-7, SHSY-5Y and SW480. We can generate specific cell lines overexpressing your gene of interest also including:

- Stably transfected pools and single-cell clone formats (cryopreserved)
  - Identification of low, medium and/or high level expressing cell lines
  - Functional characterization in accordance to your requirements
- Data sheets including expression characterization and CoA



Jurkat E6-1 cells were stably transfected with GFP and luciferase reporter constructs. Selected Jurkat E6-1 single-cell derived clones showed diverse co-expression levels of GFP and luciferase.

## Additional Services

### RNA and DNA Services

Through CellBio Services, RNA and DNA can be isolated from Lonza custom or catalog cell types, or customer supplied cells. Our suite of RNA and DNA Services includes:

- RNA and DNA isolations from custom isolated cells, Lonza catalog cells, or customer supplied cells
- Quantity and quality Assessments (Yield/concentration, A260/A280 and A260/A230 ratios)
- cDNA generation for PCR
- Relative quantification PCR

## Contact Information

### North America

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