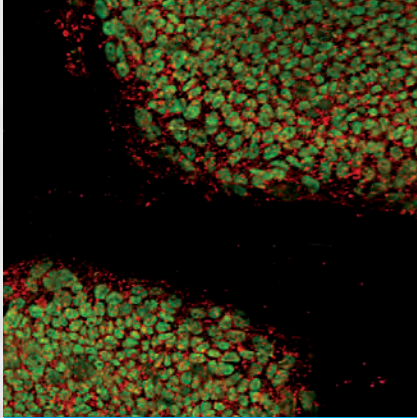
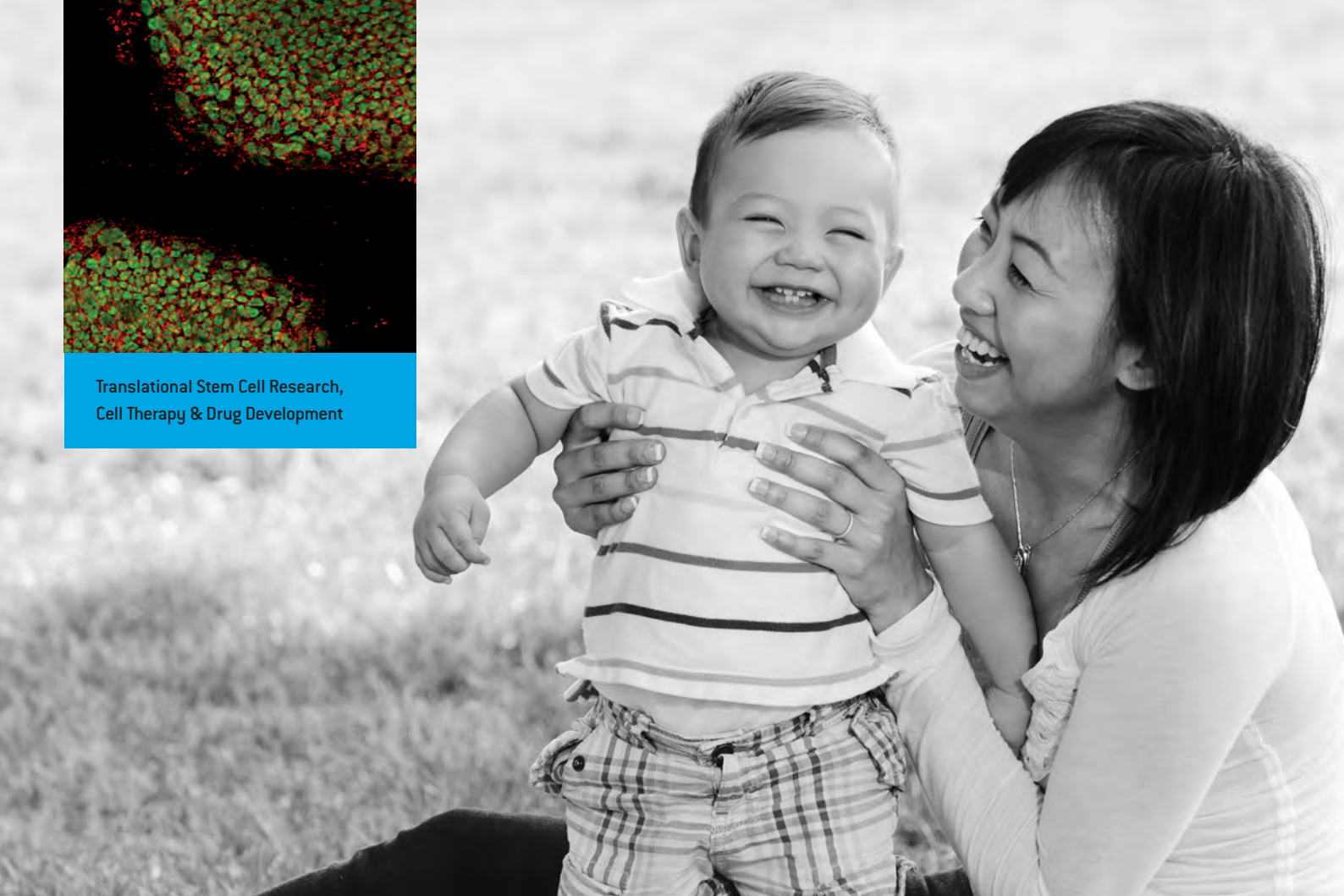


Pluripotent Stem Cell Innovation Center

Building Bridges from Research to Therapy



Translational Stem Cell Research,
Cell Therapy & Drug Development



Introduction

Both human Embryonic Stem Cells (hESCs) and induced Pluripotent Stem Cells (iPSCs) have the ability to generate any cell type in the human body. Because these cells can proliferate indefinitely *in vitro*, it is possible they could be used to produce an infinite quantity of a clinically relevant cell type, such as a dopaminergic neuron. Due to these unique attributes, Pluripotent Stem Cells (PSCs) have great potential in basic research, drug discovery and cellular therapy and could someday lead to novel therapies.

To better serve this emerging market, Lonza has built up expertise, capacity, and capabilities in PSC research and its application to clinical grade manufacturing. Our clients can now access this expertise through our PSC service offering that ranges from iPSC generation to process development and differentiation.

Our Service Offering Includes:

- **Tissue Acquisition** – Experienced team that acquires either research or clinical-grade tissue in accordance with government regulations and the highest ethical standards
- **Reprogramming** – iPSC generation under current Good Manufacturing Practices (cGMP) and non-cGMP conditions with zero-footprint technologies
- **Growth / Expansion / Banking** – Established protocols using all standard medium, matrix, and passaging methods. We also provide the infrastructure and resources to support both small and large-scale culture and banking of PSCs for research and clinical applications
- **Characterization** – All the standard methods of characterizing PSCs including validated methods for mycoplasma and sterility testing, karyotype analysis, short tandem repeat genotyping, pluripotency marker expression, and pluripotency assays
- **Differentiation** – Established protocols for the production of PSC-derived neural cell types. We also have on-going development programs for other therapeutically relevant cell types
- **Process Development** – Over the years we have expanded our expertise in the generation of iPSCs and differentiation into high purity, functional cell types. Our team is well versed in technology transfer and optimization of production protocols for use in clinical-grade manufacturing

Pluripotent Stem Cell Services



Who Are Our Clients?

Lonza is dedicated to supporting stem cell research from the laboratory to clinical applications. Our clients include:

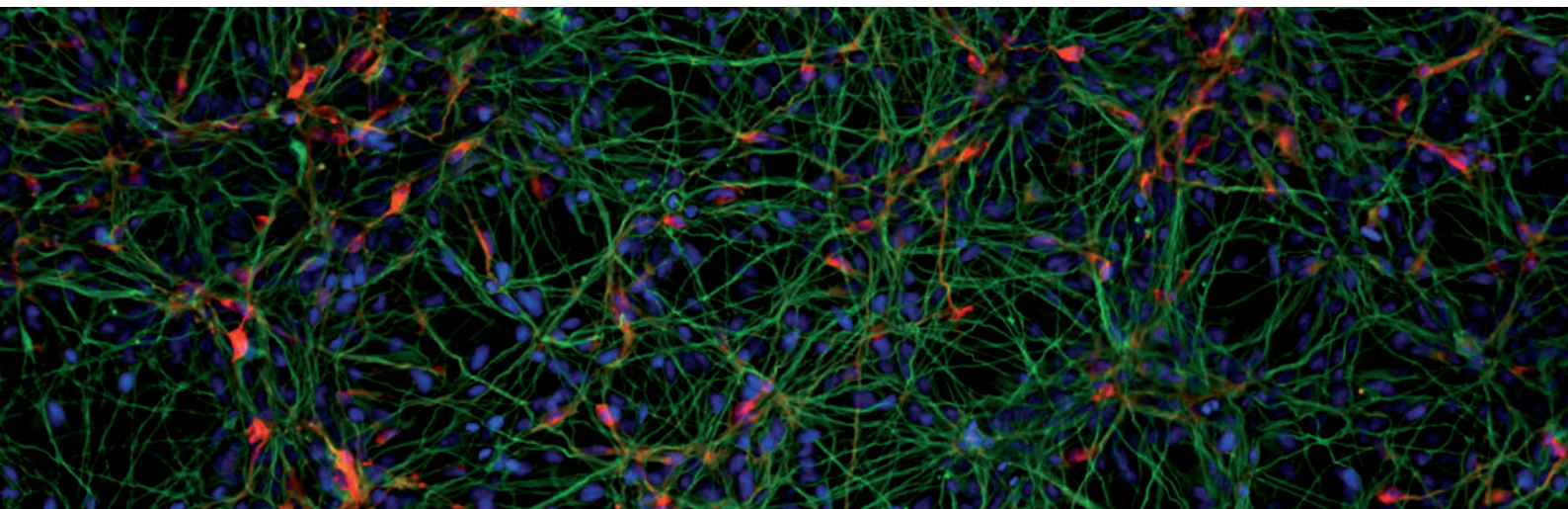
- **Translational Researchers** looking to improve yields and purity of their differentiated cell type of interest for pre-clinical studies
- **Cell Therapy Developers** looking for generation of iPSC banks under cGMP conditions and manufacturing of cGMP-grade cell products to support clinical trials and commercialization of cellular therapies
- **Pharmaceutical Companies** looking to implement more biologically relevant cell models into their screening campaigns
- **Basic Researchers** looking to access novel tools and technologies for pluripotent stem cell research

Why Should You Work with Lonza?

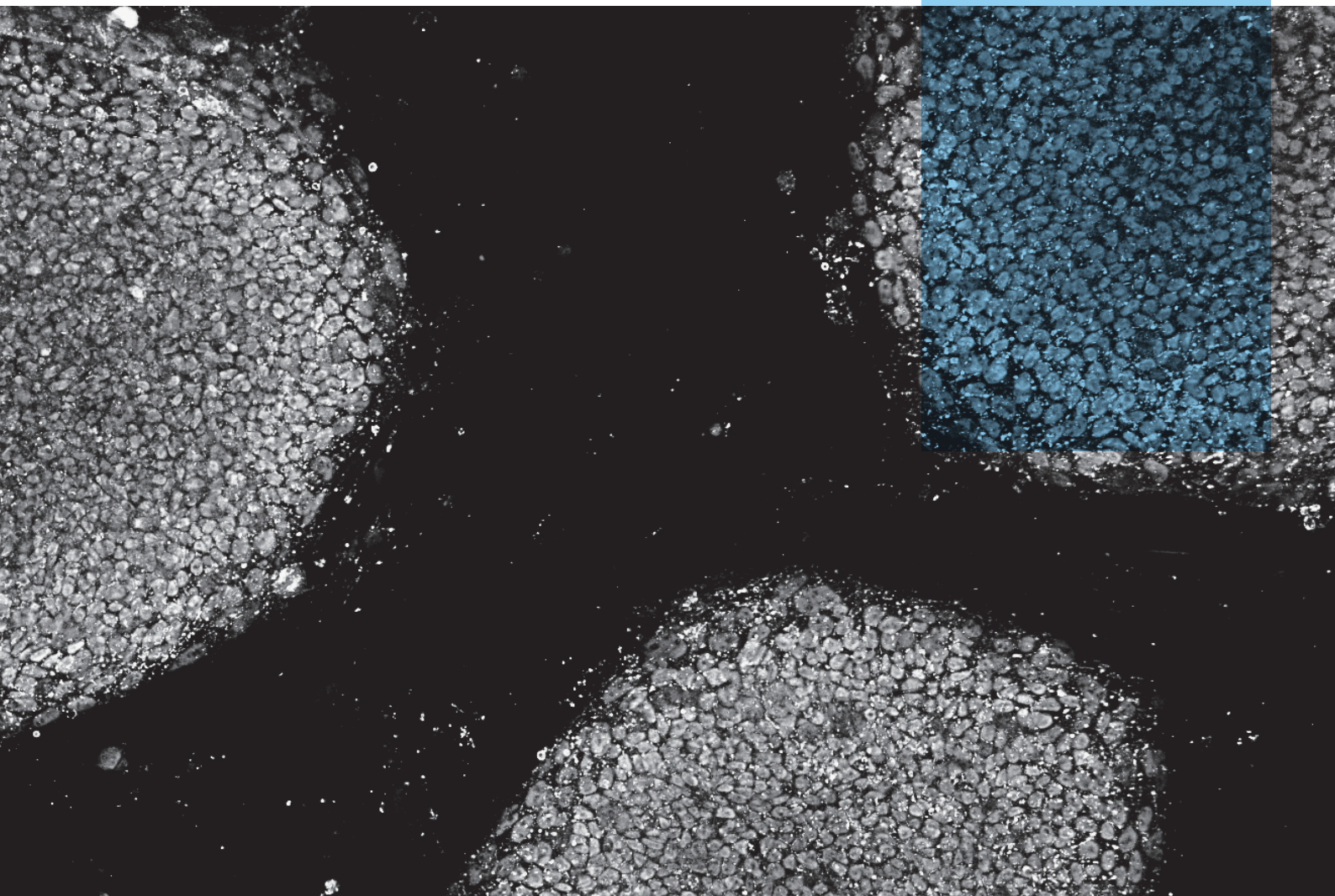
Lonza supports the unique needs of stem cell researchers from the laboratory to clinical trials and beyond through our:

- **Experience** – Our Pluripotent Stem Cell Innovation Center consists of highly trained hESC / hiPSC researchers, dedicated exclusively to PSC technology development and services
- **Capacity** – In terms of resources, expertise, and capacity, we are uniquely positioned to meet the needs of the emerging cell therapy market. We have dedicated cGMP and non-cGMP facilities, process scale-up expertise and large scale manufacturing capability for generation of iPSCs and expansion as well as differentiation of iPSCs / hESCs
- **Quality Systems** – Our mission is to provide the highest quality products and services to support our customers. We have established QA and QC infrastructure to support research-grade and cGMP product release

For more information, please contact pluripotentstemcells@lonza.com



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