Cellartis® Human Pluripotent Stem Cell Services

that's GOOD science!®

TaKaRa

Clontech TaKaRa cellartis

Stem cell expertise to assist any stage of research

Partnering for your success

With Cellartis services, you can focus on your areas of expertise and leave the challenges to us. Since our scientists have more than 15 years of experience with human pluripotent stem cell culture and differentiation, you can be confident that we will deliver custom services to expand and enhance the stem cell capabilities and success of your research team.

Benefits of working with our stem cell team include:

- Access to world-renowned scientific and technical expertise
- Confidence in quality assurance standards and controls
- Flexibility to choose the appropriate amount of support for your needs
- Efficient project management and communication about timelines and deliverables

We are committed to developing and providing optimal tools that are tailored to your projects. To ensure your success, we deliver professional expertise through close, worry-free collaboration.

Customizing your project

Design a custom project from one or more of our comprehensive services. Start with your own cells, such as human induced pluripotent stem (hiPS) cells, human embryonic stem (hES) cells, peripheral blood mononuclear cells (PBMCs), or fibroblasts. Alternatively, use our sourcing service to find and obtain PBMCs based on your specific criteria.

If you need edited clonal cell lines, our footprint-free CRISPR/Cas9 gene editing method, based on efficient ribonucleoprotein (RNP) complex delivery, generates knockouts or knockins of your gene of interest.

We also specialize in endodermal lineage differentiation from patient- or disease-specific pluripotent stem cells into functional hepatocytes, beta cells, or definitive endoderm cells.

With Cellartis Human Pluripotent Stem Cell Services, you can expect consistent, high-quality, custom cells for your research needs.

Visit takarabio.com/stemcells to explore products for stem cell research, find technical information, and get help from our technical support scientists.

Featured services

SERVICES

	Service	Description	Deliverables	Lead time
	**Sourcing**	Obtain patient- or disease-specific cells, according to your requirements, for later reprogramming into hiPS cells	• Project report including donor's relevant medical history, test results, informed consent, and ethical approval documentation • Sourced material according to project specifications	10–22 weeks
	**Reprogramming**	Get high-quality hiPS cells from your PBMC or fibroblast samples (or sourced PBMC samples)	• Project report • Master Cell Banks of three hiPS clones per donor (5 vials per clone with 2–3 million cells per vial)	Approx. 20–22 weeks depending on starting material
	**Cell banking**	Generate a Master Cell Bank from your hiPS or hES cells	• Project report • 30 vials of hiPS or hES cells (2–3 million cells per vial)	Approx. 16 weeks
	**Gene editing**	CRISPR/Cas9-based genetic engineering of your hiPS or hES cell lines via RNP-complex delivery	• Service report including characterization data • 3 edited clones • 5 vials per clone (3 million cells per vial)	Approx. 26–28 weeks
	**Directed differentiation**	Make hepatocytes, beta cells, or definitive endoderm cells from your own patient- or disease-specific hiPS or hES cell lines	• Project report • 5 or 30 vials of cells – Hepatocytes: 12 million cells per vial – Beta cells: 4.8 million cells per vial – DE cells: 6 million cells per vial	Approx. 14–22 weeks depending on final cell type

Get started on your custom project at
takarabio.com/stem-cell-services

Clinical-grade hES cell line derivation

Generating robust human embryonic stem (hES) cell lines under GMP-grade conditions is critical for the progression of clinical research using ES cells. With the Cellartis Clinical Grade hES Cell Derivation Service, we will deliver clinical-grade human ES cell lines for use in clinical research settings. To help you obtain the highest-quality custom cell line, we will work together to define the exact specifications for your cells, and then take care of sourcing and derivation under stringent ethical and safety conditions.

Derivation process

Transfer of sourced blastocysts to GMP facility

Seed Bank
Seed Bank(s) of up to three customer-proprietary donor hES cell lines for evaluation

Master Cell Bank
Master Cell Bank (MCB) of one customer-proprietary hES cell line

QA/QC on MCB
Morphology, growth rate, pluripotency, sterility, *Mycoplasma* detection, karyotype, *in vitro* differentiation, and STR analysis

Deliverables
Seed Banks, MCB (100 vials), and Project Report including all relevant documents, QA and QC package

GMP compliance

Our long history of quality is now paired with GMP compliance, bringing an added level of confidence and consistency to our portfolio. Our GMP-grade products are manufactured under rigorous standards to ensure quality and consistency, in a facility compliant with GMP regulations and guidelines. Takara Bio constructed the Center for Gene and Cell Processing in Kusatsu, Shiga, Japan, and another GMP facility in Gothenburg, Sweden, which carries out hES cell line establishment projects according to FDA and EMA standards.

Our GMP-grade products are manufactured in Takara Bio's Center for Gene and Cell Processing, winner of The International Society for Pharmaceutical Engineering's 2016 Facility of the Year Award (in the facility integration category).

In 2018, the specialized facility in Gothenburg, Sweden was granted a manufacturing license by the Medical Products Agency (the Swedish national authority) for human embryonic stem (hES) cells to be produced under GMP conditions.

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