### Emory Stem Cell Core - FACILITIES & OTHER RESOURCES

**Facilities and Resources**

**Fields Relevant for the Emory Stem Cell Core (ESCC)**

**Updated: 1 July 2022**

The Emory Stem Cell Core (ESCC), one of the Emory Integrated Core Facilities (EICF), brings a powerful research platform of generating patient specific stem cells and neural progenitor cells in support of Emory investigators. The ESCC’s focus and technical expertise is to derive and characterize human induced pluripotent stem cells (iPSCs) from terminally differentiated somatic cells using non-integrating methods. IPSCs generated from patients with a genetic defect allows for a unique opportunity to study the mechanisms of disease in an in vitro model. Other applications for these cells include CRISPR gene editing the cell lines, developing a reporter line, drug screening and discovery, and potentially regenerative therapies. Additionally, the core will provide training and educational resources to support investigators with interest in human stem cells. The ESCC interfaces with other members of the Emory Integrated Core Facilities as a pipeline to analyze patient cells that will inform drug discovery and personalized medicine.

The ESCC uses human cells, whole blood and skin samples, as provided by investigators with IRB approval, as source material for the derivation of an induced pluripotent stem cell (iPS) line. The ESCC is able to isolate primary fibroblasts from skin tissue and acquire a variety subtypes of blood cells from whole blood. Patient LCLs and iPS-derived neural progenitor cells can also be generated by the core. Additionally, established human iPS, embryonic stem cell lines, LCLs, HEK293T cells and other various established cell lines are cultured in the lab.

The ESCC located in a laboratory located on the 4th floor of the Whitehead Biomedical Research Building, with approximately 200 square feet of dedicated cell culture and wet-lab space. The ESCC’s cell culture room includes two biosafety cabinets, four carbon-dioxide incubators, two EVOS microscopes, a Countess cell counter, a Neon transfection system and a PCR machine. The ESCC also houses its own LS6000 liquid nitrogen dewar with a CS100 controller for automatic level control for storage of cryopreserved cells during active projects. The ESCC has additional access to a Nikon Eclipse TI Fluorescence Microscope, a Nikon Biostation IM Microscope, a Keyence Fluorescence Microscope, an Applied Biosystems QuantiStudio 6 Flex Real Time PCR machine, a Biorad ChemiDoc MP Imaging system and a Synergy H1 Multi-mode Plate Reader.