



PACT Products / Capabilities*

Progenitor Cells

- **c-kit⁺ cells** (cardiac/renal)
- **Endothelial cells**
- **Hematopoietic stem cells (HSC)**
 - Aldehyde dehydrogenase-bright cells
 - Bone Marrow (BM)
 - Peripheral Blood (PB)
 - Umbilical placental/cord blood (UCB)
- **Hepatic stem cells**
- **Human embryonic stem cells**
(hESC, *NIH-approved cell lines*)
- **Induced pluripotent stem cells (iPSC)**
- **Mesenchymal stem cells (MSC)**
(BM, Umbilical cord blood/tissue)
- **Neural stem cells**
- **Skeletal myoblasts**
- **T cells - UCB-derived**

Antigen Presenting Cells / Dendritic Cells / Tumor Vaccines

- **Antigen-presenting cells**
 - Dendritic cells/Monocytes
 - K562 – genetically modified
 - Pepmix-pulsed activated T cells
 - Dendritic cells
 - Adenovirally transduced
 - Apoptotic tumor cell pulsed
 - Transfected
 - Tumor lysate pulsed
 - Tumor-dendritic cell hybrids
- **Large multivalent immunogen (LMI) vaccine** (allogeneic)
 - Breast adenocarcinoma
 - Melanoma

Lymphocytes

- **EBV-transformed B cell lines (LCLs)**
- **PB-derived**
 - Activated NK cells
 - CD4⁺/CD25⁺ T regulatory cells
 - TGFβ-induced T regulatory cells
- **T cells - virus specific**
 - Adenovirus
 - BK virus
 - Cytomegalovirus
 - EBV
 - EBV-LMP-directed
 - HIV
 - HHV-6
 - Vaccinia
 - Varicella zoster (VZV)
- **Thymidine kinase (suicide gene)-transduced T cells**
- **Tumor-infiltrating lymphocytes (TILs)**
- **Marrow-infiltrating lymphocytes**
- **UCB-derived CD4⁺/CD25⁺ T regulatory cells**



Genetically Modified Cells

- Activated T cells
- CAR-T cells / CAR-VSTs
- Cytotoxic T Lymphocytes (TGF β , CAR)
- Dendritic cells
- Fibroblasts
- HSC
- Neural stem cells
- Tumor cells/vaccines

Master / Working Cell Banks

- B95-8 EBV
- Fibroblasts
- hESC (NIH-approved cell lines)
- iPSC
- MSC
- Neural stem cells
- NK cell lines

Services

- Alloreactive T cell depleted (immunotoxin)
- Aseptic filling
- Biochemical, ELISA, Western blot analysis
- Cell culture isolation, expansion, and cryopreservation technologies
- Cell Depletion / Cell Enrichment (BM/PB/UCB)
 - CD3/CD19 depletion
 - CD14 selection
 - CD34 selection
 - CD56 selection
 - TCR-alpha/beta depletion
- Cell manufacturing for large animal models
- Counterflow elutriation
- Cytokine capture technology
- Estimation of product telomere length and activities
- Extraction of biomarkers and gene expression
- Immune monitoring
- Immuno histofluorescence
- Pancreatic islet cell production
- Plasmid production
- Potency assay development
- Tumor digestion

*List is not inclusive

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PACT Cell Processing Facilities

- Center for Cell and Gene Therapy, Baylor College of Medicine
- Center for Biomedicine and Genetics, City of Hope
- Interdisciplinary Stem Cell Institute Cellular Manufacturing Program, University of Miami, Miller School of Medicine
- University of Minnesota, Molecular and Cellular Therapeutics
- Moffitt Cancer Center
- The Emmes Company, LLC – Coordinating Center