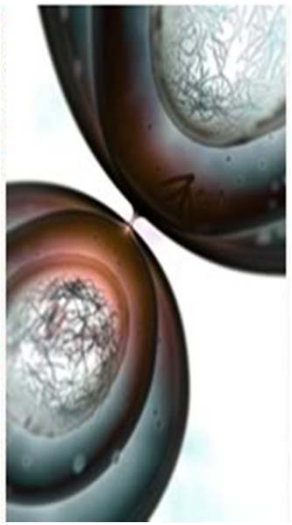
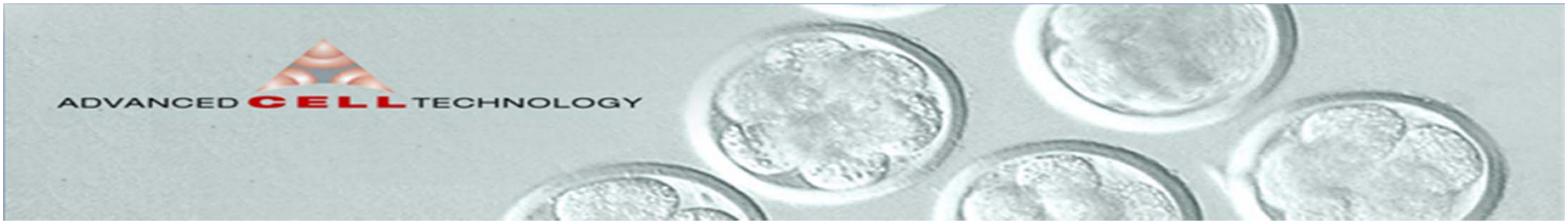


Advanced Cell Technology

World Stem Cells and Regenerative Medicine Congress

~ May 2011 ~



Cautionary Statement Concerning Forward-Looking Statements

This presentation is intended to present a summary of ACT's ("ACT", or "Advanced Cell Technology Inc", or "the Company") salient business characteristics.

The information herein contains "forward-looking statements" as defined under the federal securities laws. Actual results could vary materially. Factors that could cause actual results to vary materially are described in our filings with the Securities and Exchange Commission.

You should pay particular attention to the "risk factors" contained in documents we file from time to time with the Securities and Exchange Commission. The risks identified therein, as well as others not identified by the Company, could cause the Company's actual results to differ materially from those expressed in any forward-looking statements.

At the Forefront of Regenerative Medicine

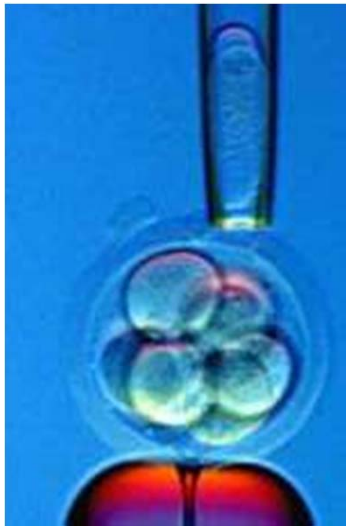
- Patented Technology for Producing hESCs *without Harm to Embryo*
  - *Working with Roslin Cells to create GMP-compliant hESC bank*
- Commencing 2 Human Clinical Trials utilizing hESC-derived RPE Cells
  - *Stargardt's Disease, aka Stargardt's Macular Dystrophy (SMD)*
  - *Dry AMD – (Dry Age-Related Macular Degeneration)*
  - *First Clinical Trial Site Announced – Jules Stein Eye Institute (UCLA)*
- *Treatment of First Patients – enrolling patients presently.*
- *Expecting Preliminary Safety and Engraftment Data by Year-End*
- *Commencing European Trials first half 2012*

Therapeutic Programs	Indication	Clinical Stage
Retinal Pigment Epithelium (RPE) Program	Stargardt's Macular Dystrophy	IND approved Nov. 2010 IRM Approval (UCLA) April 2010 Presently Enrolling Patients
	Dry AMD	IND approved Jan. 3, 2011 IRB Approval (UCLA) April 2010 Presently Enrolling Patients
Myoblast Program	Heart Disease, Heart Attack and Heart Failure	Phase I successfully completed FDA-approved for Phase II
Hemangioblast Program	Diseases and Disorders of Circulatory and Vascular System	Preclinical Anticipate IND filing late 2011/early 2012

Single Blastomere Technology

- Platform Technology for Generating Robust Human Embryonic Stem Cells
- Without the Need to Destroy Embryos

Single Blastomere ES Cell Technology



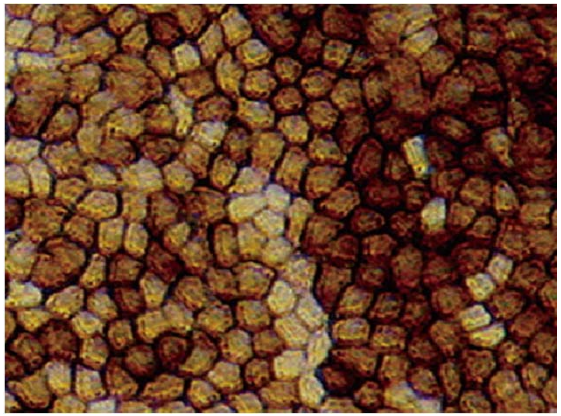
nature

- Company scientists successfully generate human embryonic stem cell lines without destruction of embryo
- Utilizes single cell biopsy similar to pre-implantation genetic diagnostics (PGD).
- PGD is routine - used in thousands of pregnancies every year in United States and Europe.

- Resulting human ES cell lines are more robust and reproducible than traditional ICM-derived lines.
  - Head-to-head comparison with 24 NIH lines: Average 5X more efficient than best NIH lines for producing cells from all three germ layers.
- Reproduced and peer-reviewed on several occasions.
- Feb. 23, 2011: Issued broad patent on technology

Generating Robust ES Cells without Destruction of Embryo

First Proven Alternative hESC Method



Human RPE Cells Differentiated from Blastomere hESC Lines

- Enables Derivation of new hESC Lines via single cell biopsy method ➔ Does not change the fate of the embryo from which the biopsy was taken
  - Outside scope of federal court's original injunction in Sherley vs. Sebelius (U.S.) and Advocate General Yves Bot opinion to Court of Justice in Brüstle vs. Greenpeace (Europe).
- Several hESC lines awaiting NIH approval for funding – embryos from which these lines were derived were not destroyed.
- Roslin Cells and ACT plan to generate GMP-compliant bank of human ES Cells for research and commercial uses.
- Technology was used to develop FDA approved hESC Master Cell Bank for our clinical trials for Stargardt's disease and Dry AMD

ACT Ocular Program

Retinal Pigmented Epithelial Cells

Retinal Pigment Epithelium

- The RPE layer is critical to the function and health of photoreceptors and the retina as a whole.

RPE cells secrete trophic factors and impact on the chemical environment of the subretinal space.

- recycle photopigments
- deliver, metabolize and store vitamin A
- transport iron and small molecules between retina and choroid
- maintain Bruch's membrane

RPE malfunction may lead to photoreceptor loss and eventually blindness

Photoreceptor viability is dependent on RPE cell layer

Retinal Pigment Epithelial Cells - Rationale

- Pigmented RPE cells are easy to identify (no need for further staining)
- Small dosage vs. other therapies
- The eye is generally immune-privileged site, thus minimal immunosuppression required, which may be topical.

- Ease of administration
  - Doesn't require separate approval by the FDA (universal applicator)
  - Procedure is already used by eye surgeons; no new skill set required for doctors

RPE cell therapy may impact over 200 retinal diseases

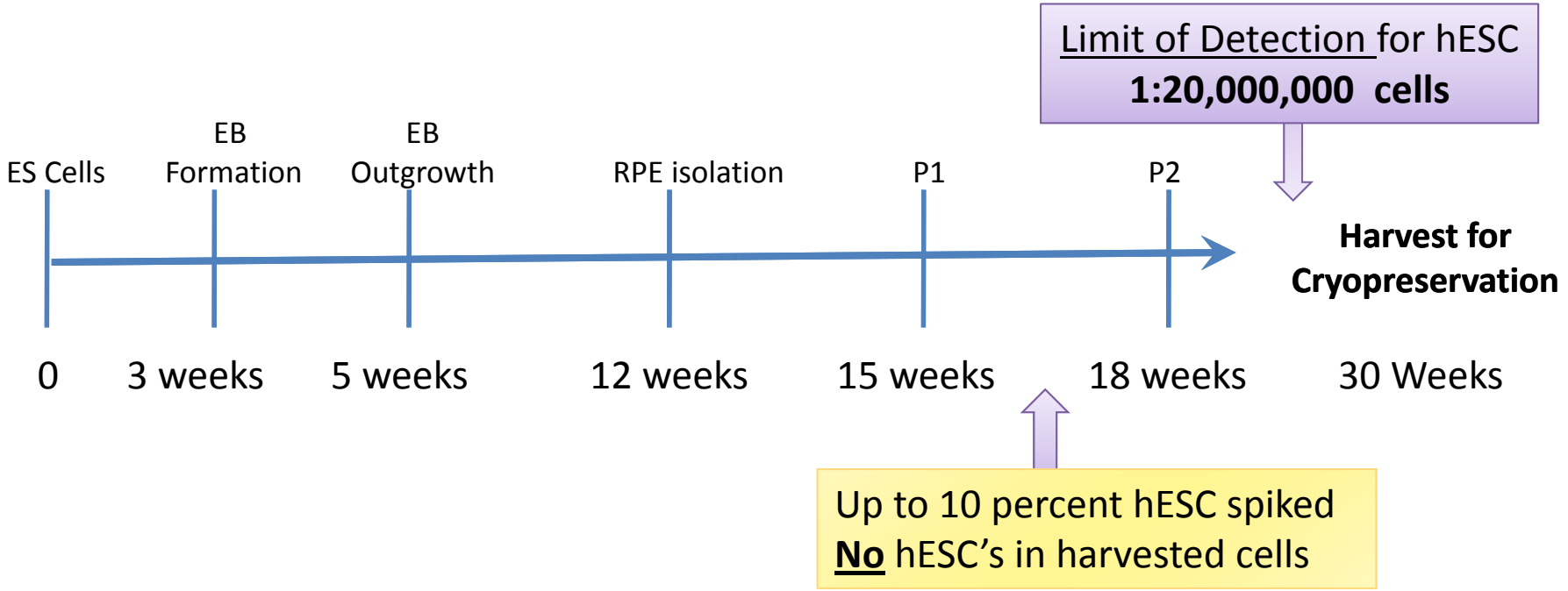
Manufacturing

- Established GMP-compliant process for the Reproducible Differentiation and Purification of RPE cells.
  - Virtually unlimited supply of cells
  - Can be derived under GMP conditions pathogen-free
  - Can be produced with minimal batch-to-batch variation
  - Can be thoroughly characterized to ensure optimal performance
  - Molecular characterization studies reveal similar expression of RPE-specific genes to controls and demonstrates the full transition from the hESC state.

Ideal Cell Therapy Product

- Centralized Manufacturing
- Small Doses that can be Frozen and Shipped
- Ease-of-Handling by Doctor

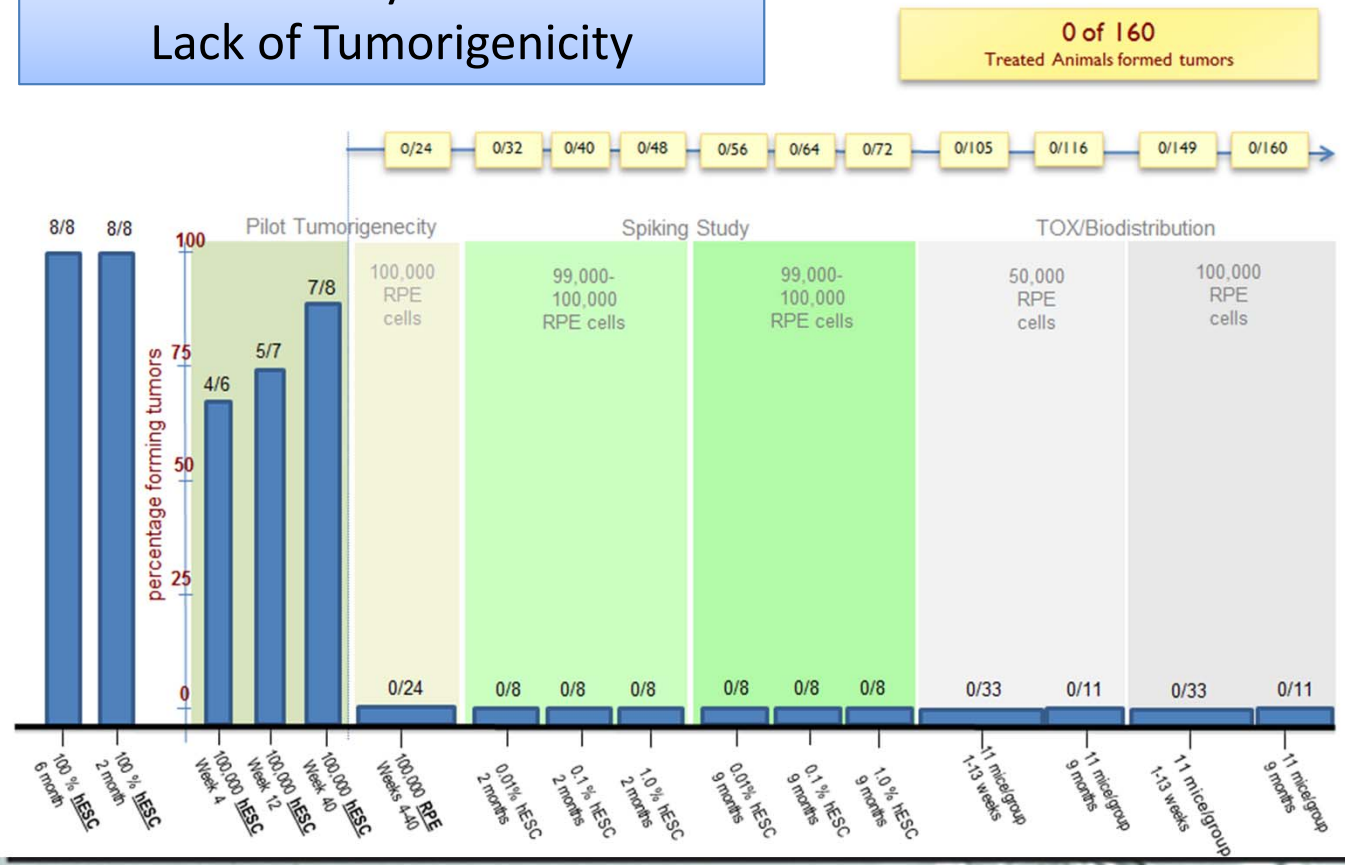
Differentiation Media is Not Permissive for hESCs



RPE differentiation is the default pathway under ACT's Patented Culture Conditions

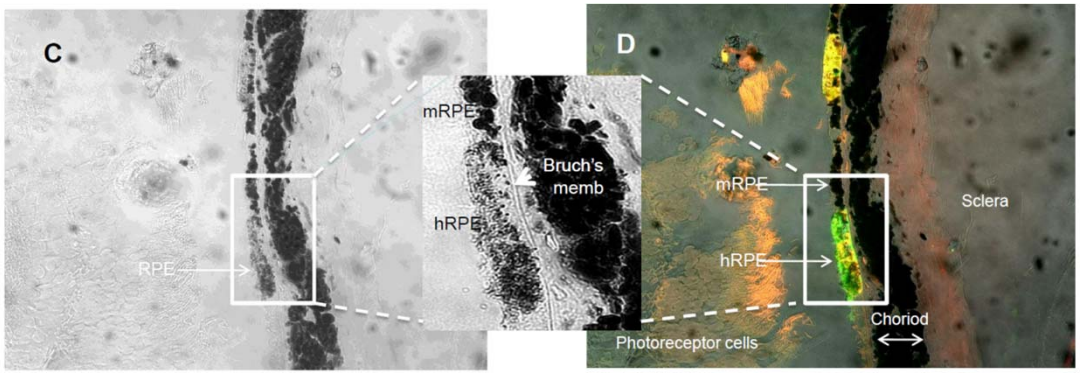
Safety Studies

Extensive Safety Studies Shows Lack of Tumorigenicity



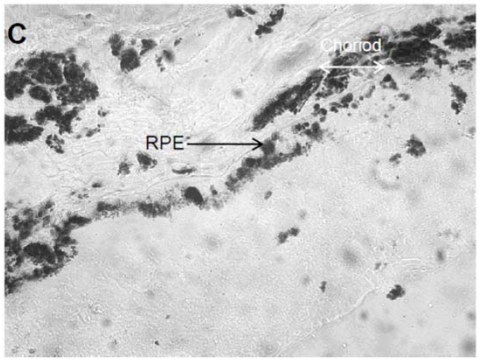
Long-term data (spanning the life of the animals) revealed no evidence of teratoma formation after subretinal hESC-RPE transplantation.

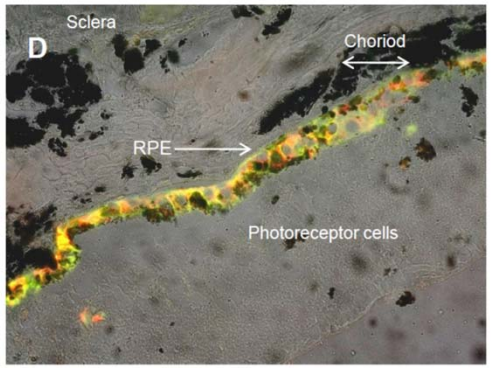
RPE Engraftment – Mouse Model



Human RPE cells engraft and align with mouse RPE cells in mouse eye

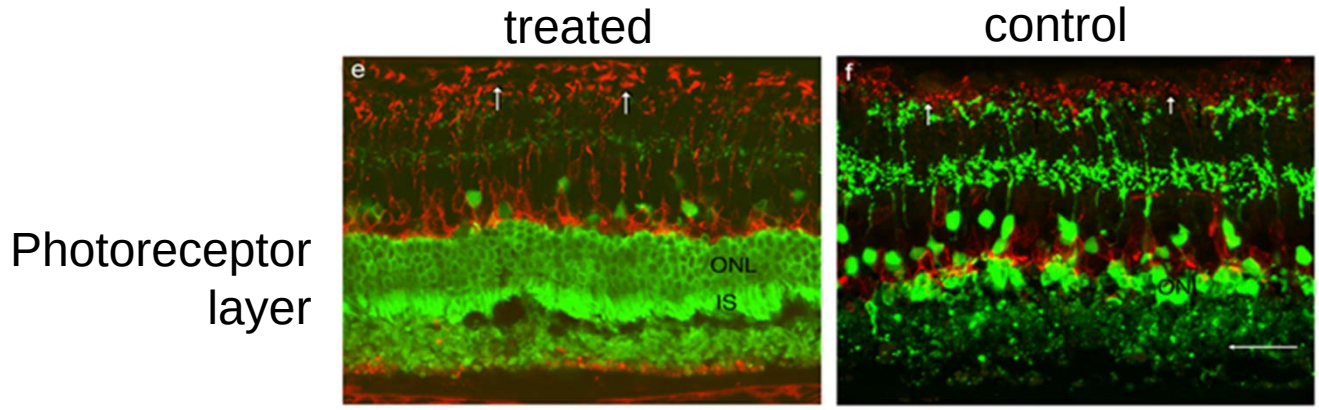
For each set: Panel (C) is a bright field image and Panel (D) shows immunofluorescence with anti-human bestrophin (green) and anti-human mitochondria (red) merged and overlayed on the bright field image. Magnification 400x





Animal Studies

RPE treatment in animal model of retinal dystrophy has slowed the natural progression of the disease by promoting photoreceptor survival.



RPE cells rescued photoreceptors and slowed decline in visual acuity

RPE Engrafted without Adverse Effects in the Eye

Safety/Biodistribution Study was designed to determine the ability of the cells to migrate or disseminate outside the area of the transplant as well as assess the general safety of the cells in an animal model.

- No Observed Pathologies
  - All eye slides were reviewed by a board certified veterinary pathologists.
    - Only typical retinal morphology was observed.
    - No ectopic tissue or abnormal pathology was observed.
    - Histological examination of the retinas demonstrated the presence of human-specific nuclear marker.
    - Staining with human-specific proliferating cell nuclear antigen (PCNA) was negative, indicating that there was no proliferation of the human RPE cells.

RPE Cells Engraft and Function in Two Animal Models of Disease

Functional Rescue observed in Stargardt Mouse Model

- Efficacious dose established
- Near-normal functional measurements were recorded at >60 days.

Chemically Immunosuppressed RCS Rat Study

- Photoreceptor Rescue
  - Extensive photoreceptor rescue. Photoreceptor layer 5-7 cell layers deep in treated animals versus 1 cell layer deep in untreated control.
- Improved Visual Acuity
  - 100 percent improvement in visual performance over untreated control
  - Restored to 70 percent of normal healthy animals.
- Survival of transplanted cells more than 220 days post-op
- No Tumor Formation
- Normal Pathology
  - No indication of extraneous non-retinal cells in eyes.

Functional Integration of RPE Cells into RPE layer was Observed

Stargardt's Macular Dystophy

- Also referred to as "Juvenile Macular Degeneration"
  - Causes progressive vision loss beginning in childhood.
  - Stargardt's Macular Dystrophy afflicts approximately 25,000 people in the U.S.
  - Usually diagnosed in individuals under the age of twenty, when decreased central vision is first noticed.

- Animal Model
  - 100 percent effectiveness of RPE injections.
  - Treated animals retained 70 percent visual acuity of normal animal, whereas untreated went blind.

- ACT has obtained Orphan Drug Designation in United States
  - 7 Years of Market Exclusivity for using RPE cells to treat Stargardt's Disease
  - Secured positive opinion on similar Orphan Status designation in Europe

FDA-approved for Phase I/II clinical trial
Patient Recruitment Underway

Age Related Macular Degeneration

- Estimate over 30 Million patients in North America and Europe
- Approximately 10% of people ages 66 to 74 will have symptoms of macular degeneration
- Prevalence increases to 30% in patients 75 to 85 years of age.

Dry AMD (non-exudative)

- The most common form of AMD (estimates as high as 90 percent)
- No Currently Effective Therapy available
- Estimated $20-30 Billion market

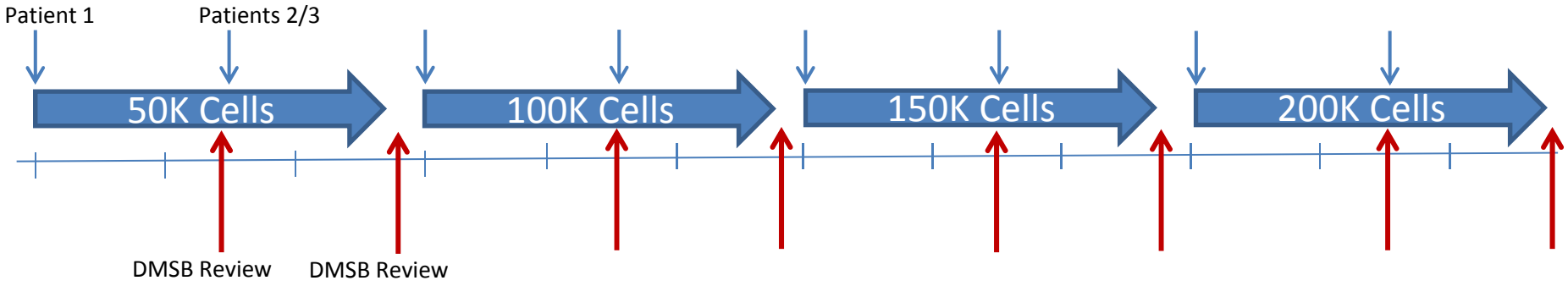
FDA-approved for Phase I/II clinical trial
Patient Recruitment Underway

Phase I: Clinical Trial Design

- 12 Patients for each trial, ascending dosages of 50K, 100K, 150K and 200K cells.
  - For each cohort, 1st patient treatment followed by 6 week DMSB review before remainder of cohort.
- Patients will be monitored weekly - *including high definition imaging of retina*

Permit comparison of RPE and photoreceptor activity before and after treatment

High Definition Spectral Domain Optical Coherence Tomography (SD-OCT)
Retinal Autofluorescence
Adaptive Optics Scanning Laser Ophthalmoscopy (AOSLO)



Anticipate engraftment and photoreceptor activity data early in Phase I study.

Program Summary

- Stargardt's Disease
  - IND approved in November 2010
    - Jules Stein Eye Institute (UCLA) announced as first clinical trial site
  - European CTA filed.
  - Orphan Drug Designation granted in U.S., Positive Opinion in Europe
  - Ideal Candidate for compassionate use approval
    - Would permit sales in certain European countries prior to Market Authorization
    - Reimbursed at premium price in several countries
- Dry AMD
  - IND: Approved in December 2010
    - Jules Stein Eye Institute (UCLA)announced as first clinical trial site
  - European CTA in preparation.

Intellectual Property

Retinal Pigment Epithelial Cells

- **Worldwide Patent Filings**
- **Dominant Patent Position for Treating Retinal Degeneration**
  - US Patent 7,794,704 broadly cover methods for treating retinal degeneration using human RPE cells differentiated from human embryonic stem cells (hESCs). Includes, but is not limited to, Stargardt's disease, retinitis pigmentosa, and macular degeneration.
- **Broad Coverage for Manufacturing RPE Cells from hESC**
  - U.S. Patents 7,736,896 and 7,795,025 are broadly directed to the production of retinal pigment epithelial (RPE) cells from human embryonic stem cells. Covers fundamental methods for manufacturing RPE cells from human ES cells suitable for use in generating transplantable cells for treatment of human patients.

Single Blastomere Technology

- **Worldwide Patent Filings**
- **Broad Claims to use of Single Blastomeres**
  - U.S. Patent 7,893,315 broadly covers ACT's proprietary single-blastomere technology that provides a non-destructive alternative for deriving human embryonic stem cell (hESC) lines.

Other Notables

- Controlling Filings (earliest priority date) to use of OCT4 relating to induced pluripotency (iPS).
- Pending and issued patent filings directed to significant protocols for transdifferentiation.

The Advanced Cell Technology Team

World Class Scientific Team

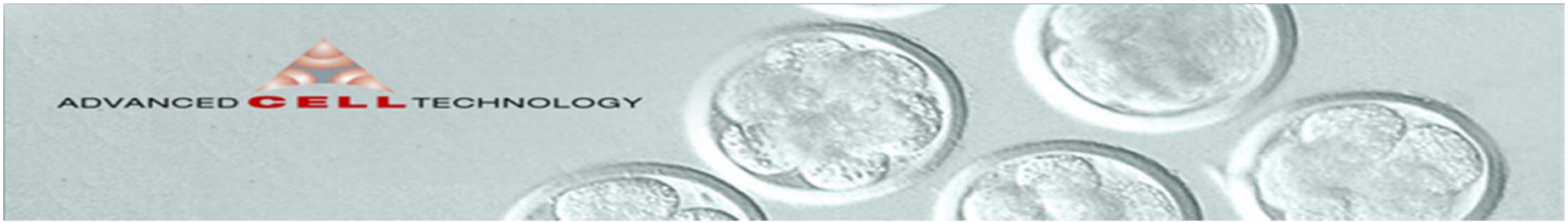
Dr. Robert Lanza, M.D. – Chief Scientific Officer

Dr. Irina Klimanskaya, Ph.D. – Director of Stem Cell Biology

Dr. Matthew Vincent, Ph.D. – Director of Business Development

Seasoned Management Team

Gary Rabin – Interim Chairman and CEO
Stephen Price – Interim SVP – Corporate Development
Edmund Mickunas – Vice President of Regulatory Affairs
Dr. Roger Gay, PhD – Senior Director of Manufacturing
Rita Parker – Director of Operations
Bill Douglass – Director of Corporate Communications & Social Media



Thank you for your time

For more information, visit www.advancedcell.com