JDRF

NCI

NIDDK

ns-Institute Angiogenesis Research Progra (TARP)

NEI

NICHD

NINDS

NHLBI

TARP Mission Statement

o encourage and facilitate the study of the underlying mechanisms ontrolling blood vessel growth and development.

o identify specific targets and to develop therapeutics against athologic angiogenesis in order to reduce the morbidity due to onormal blood vessel proliferation in a variety of disease states.

o better understand the process of angiogenesis and vascularizatio nprove states of decreased vascularization.

o encourage and facilitate the study of the processes of mphangiogenesis.

o achieve these goals through a multidisciplinary approach, bringi gether investigators with varied backgrounds and varied interests.

"The committee is pleased with th
progress of angiogenesis researc
across the institute to involve bot
intramural and extramural
researchers and encourages NCI
to continue to pursue efforts to
establish greater collaboration
between angiogenesis researcher
in the field of cancer biology and
diabetes. The trans-NIH
angiogenesis workshop is an
important step toward promoting
multidisciplinary research on this

TARP Accomplishments

- Organized and sponsored a workshop on opportunities for cross discipline collaboration for vascular developmental biology research.
- Established a website for the TARP.
- New collaborative RFAs (NIDDK, JDRF, NINDS, NHLBI, NEI, NCI).
- Organized and co-sponsored a Nature Insight on Angiogenesis.
- Performed a review of the angiogenesis grant portfolios for 5 member ICs.
- Convened a panel to review the current angiogenesis portfol and to offer opinions on new directions and opportunities.
- Opened an Angiogenesis Core Facility at the CCR ATC in Ma

Angiogenesis Core Facility

- Validate existing angiogenesis assays and reagents.
- Develop new assays focusing on molecular pathways and systems biology.
- Develop animal models to study molecular or cellular biology of angiogenesis.
- Provide clinical trial support to measure changes in angiogenesis in patients on clinical studies.
- Expand its capabilities over time to provide support services to other investigators.

Angiogenesis Core Facility
the Center for Cancer Research
lvanced Technology Center (AT

Angiogenesis Core Personnel

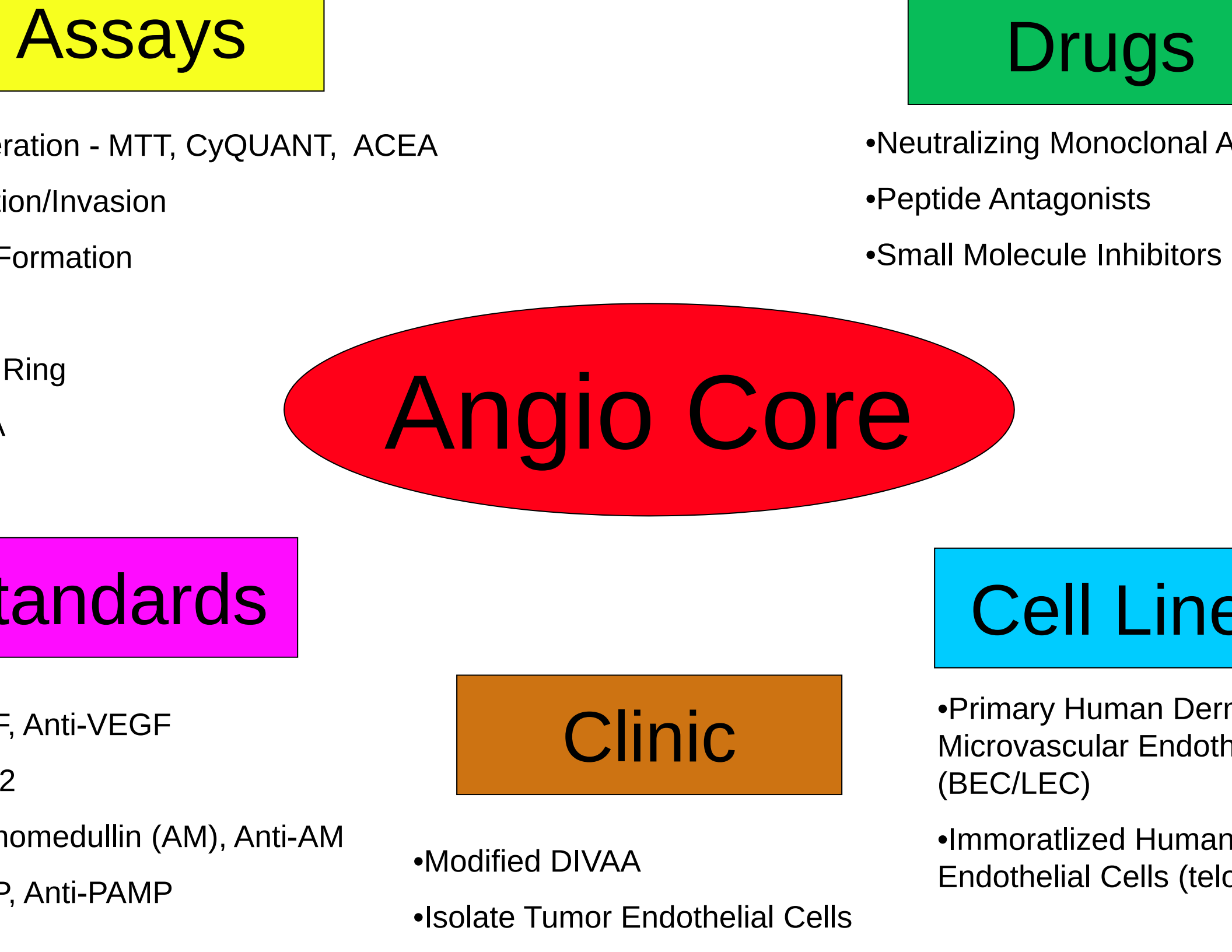
Frank Cuttitta, Ph.D. - Director

Igalill Avis, R.N. - Senior Technician

Enrique Zudaire, Ph.D. - Senior Scientist

Sergio Portal, Ph.D. - Research Fellow

Syed Ahmed, B.S. - CRTA


Assays
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A
Drugs
•Neutralizing Monoclonal A
•Peptide Antagonists
•Small Molecule Inhibitors
Angio Core
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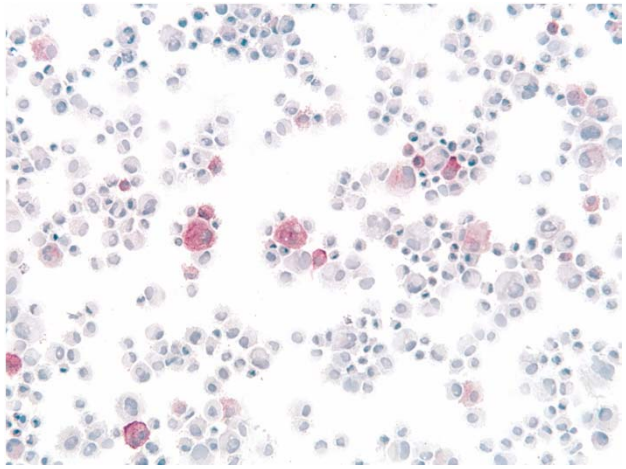
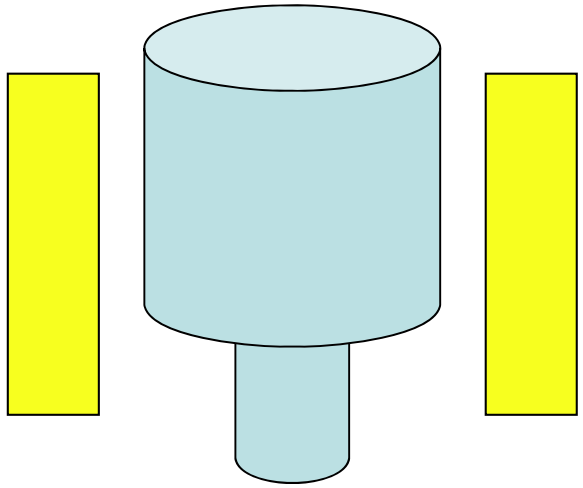
2
homedullin (AM), Anti-AM
P, Anti-PAMP
Clinic
•Modified DIVAA
•Isolate Tumor Endothelial Cells
Cell Line
•Primary Human Derm
Microvascular Endoth
(BEC/LEC)
•Immoratlized Human
Endothelial Cells (telo

agnetic Bead Purification of Primary Human Derm
licrovascular Endothelial Cells Using MACS Syste

Starting Material



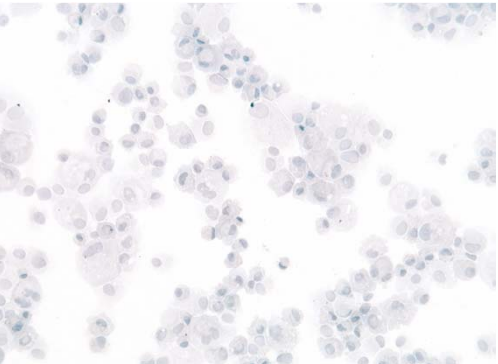
20-30% LYVE-1 Positive



Rabbit Anti-LYVE-1 +
Goat Anti-Rabbit Beads

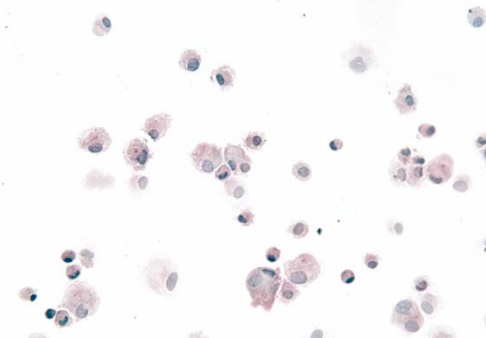
low Through

Retained



Zero % LYVE-1
Positive

70 % LYVE-1
Positive



Angiogenesis Core Facility

-Short Term Goals-

Standardization of Investigative Approache

- **Establish reliable *in vitro/in vivo* angiogenesis assays (CAM, OR, SV, DIVAA)**

- **Identify commercial source of primary human blood vessel endothelial cells (microvascular) with low lymphatic contamination (<3.0%).**

- **Identify commercial source of potent angiogenic factors (i.e. VEGF, bFGF, MCP-1 etc) to use as standards and respective suppressor compounds for that activity.**

Angiogenesis Core Facility

-Long Term Goals-

Bench to Bedside Applications

- **Develop new *in vitro/in vivo* angiogenesis or lymphangiogenesis assays which better mimic the clinical setting (i.e. co-cultures studies, DIVLA etc).**

- **Modify existing DIVAA to assess patient endpoint when treated with anti-angiogenic drugs.**

- **Identify new anti-angiogenic/lymphangiogenic drugs using established CORE assays (i.e. neutralizing monoclonal antibodies, peptide antagonists or small molecule inhibitors**

- **Serve as a training center for the intramural/extramural community and organize standardization in the field.**

TARP Steering Committee

- **Peter Dudley, Ph.D., *NEI***
- **Stephen Goldman, Ph.D., *NHLBI***
- **Robert A. Goldstein, M.D., Ph.D., *JDRF***
- **Teresa Jones, M.D., *NIDDK***
- **Gabrielle Leblanc, Ph.D., *NINDS***
- **Richard Levine, M.D., *NICHD***
- **Steven K. Libutti, M.D., *NCI***
- **Sheldon Miller, Ph.D., *NEI***
- **Suresh Mohla, Ph.D., *NCI***
- **Kathleen Schlom, *NCI***
- **Eser Tolunay, Ph.D., *NHLBI***