LLS TAP

THERAPY ACCELERATION PROGRAM

LORE GRUENBAUM, VP, TAP
JAVEED FROOZAN, VP, BD & SA

September 2021
The mission of The Leukemia & Lymphoma Society (LLS) is to cure leukemia, lymphoma, Hodgkin’s disease and myeloma, and improve the quality of life of patients and their families.

We fund **RESEARCH** to advance lifesaving treatments.

We provide patients, survivors, caregivers, families and healthcare professionals with hope, guidance, **EDUCATION** and **SUPPORT**.

We drive **ADVOCACY** for policies that protect patient access to lifesaving treatment.

Approximately every **3 minutes** someone in the U.S. is diagnosed with blood cancer

Nearly **1.4 million** people in the U.S. are living with or in remission from leukemia, lymphoma or myeloma

About **30 percent** of blood cancer patients still do not survive five years after diagnosis

About **40 percent** of all pediatric cancers are blood cancers

**BEATING CANCER IS IN OUR BLOOD.**
LLS MISSION INVESTMENT IS SUPPORTED BY MULTIPLE REVENUE SOURCES

OUR IMPACT

- Invested nearly $1.3 billion in research and development worldwide since founded in 1949
- Helped advance 52 of 60 FDA approved blood cancer drugs
- Supported >93,000 patients since inception
- Responded to 20,000 inquiries in 2019
LLS GLOBAL RESEARCH AND DEVELOPMENT FOCUS

Research and development programs and clinical trials using LLS resources

- **Therapy Acceleration Program®**
- **DISCOVER** Research Grant Programs
- **DEVELOP** Beat AML Initiative
- **COMMERCIALIZE** Patient Education, Access & Advocacy

**Academic Grants**

~$50 Million/yr over past 20 years at over 80 institutions with >4,000 projects total

**PedAL**

Global precision medicine trial focused on pediatric relapsed leukemia

**Therapy Acceleration Program®**

~$10 Million/yr venture philanthropy initiative funding >70 portfolio projects since 2007

**Beat AML® Master Clinical Trial**

LLS Sponsored precision medicine trial
LLS THERAPY ACCELERATION PROGRAM (TAP)
Venture philanthropy funding to support novel therapies

Established in 2007
>$125 Million invested to date
  ▪ Biotech: >$90 Million
  ▪ Institutions: ~$35 Million
  ▪ >70 financings of companies and assets
  ▪ >20 assets currently in active development

3 FDA-Approved Therapies
  ▪ Vyxeos (AML)
  ▪ Yescarta (DLBCL, tFL, PMBCL)
  ▪ Elzonris (BPDCN)

ROI Focus:
  ▪ FDA Approvals
  ▪ Assets in clinical development
  ▪ Strategic transactions & financing for portfolio companies
  ▪ Financial ROI to LLS

www.LLS.org/therapy-acceleration-program

BEATING CANCER IS IN OUR BLOOD.

New + Incremental Investments - 2021
*Includes Phase 2 registration-enabling studies
LLS TAP SCIENTIFIC & BUSINESS LEADERSHIP

Lore Gruenbaum, PhD  
VP, TAP  
- 20 years drug discovery & clinical development  
- VP, Gotham Therapeutics; Exec Dir, Applied Biomath  
- Biomarker Head, Virology, Roche; Group Leader, BI  
- Yale postdoctoral work, principal investigator and collaborator on several SBIR grants

Lee Greenberger, PhD  
SVP, Chief Scientific Officer  
- 20 years big pharma and biotech  
- Oversight responsibility for >$50 M annual research budget  
- Advanced > 10 oncology therapeutics into the clinic  
- Search & due diligence experience with big pharma

Javeed Froozan, MBA, BS  
VP, Business Development  
- 25 years biopharma and health technology value creation  
- Sr. Dir, Emergent BioSolutions, Multiple start-ups/exits, 2 IPOs  
- Business lead on EBS-Trubion M&A transaction. Alliance Manager for Pfizer relationship  
- Strategic Investments, M&A, Business Development, Asset Management, and Economic Development

Blaine Robinson, PhD  
Executive Director, TAP  
- 15 years research & clinical development in blood cancer  
- Search & Diligence on 100+ projects  
- Scientific lead for over 20 TAP projects including Constellation, Kymera, Ryvu & most recently Abintus, Caribou & Immune-Onc  
- Pediatric leukemia researcher, Children’s Hospital of Philadelphia

Jun Xu, PhD  
Executive Director – TAP Lead  
- 20 years oncology/immunology drug discovery/development  
- Search & Diligence on 100+ projects  
- Scientific lead for over 20 TAP projects including multiple high impact ones, such as Stemline, Kite, argenX, Forty Seven & most recently Carisma

Therapy Acceleration Program Committee: [https://www.lls.org/therapy-acceleration-program/oversight](https://www.lls.org/therapy-acceleration-program/oversight)
TAP GOALS & INVESTMENT STRATEGY

Accelerate innovative blood cancer therapies and generate ROI for LLS mission

Focus on high-value assets:

- Existing and emerging populations with high unmet needs
- Gaps in current and emerging treatment landscape
- Innovative science, first-in-class assets
- First-in-heme/onc and registration trials
- Strong intellectual property, management, and finances

Average annual number

- New Opportunities: 80-100
- LLS Staff Evaluation: 40-50
- Confidential Presentation: 20-30
- External Expert Consultation: 5-10
- TAP Committee Review: 2-4

TAP APPROVAL

BEATING CANCER IS IN OUR BLOOD.
2 PATHS TO CO-INVEST WITH INVESTORS AND VENTURE PHILANTHROPIES

**Strategic**
- Range of Investment: $2 Million to $10 Million
- Presentation to TAP Committee
- Typically, 3-6 months to reach TAP Committee

**Opportunistic**
- Target Investment: $500,000
- LLS TAP team briefs TAP Committee Chair
- Transaction completion in 1-3 months
TAP VALUE ADD TO BIOTECH COMPANIES

TAP-funded companies benefit from LLS blood cancer insight

- Deep knowledge of indications and rapidly changing SoC
- Unique scientific, clinical, and drug development expertise
- Patient access services to enable understanding of patient needs
- Immediate access to extensive KOL network
- Pharmaceutical, biotech, and research institution partner connections
- Regulatory insight through LLS initiatives (Beat AML Master Clinical Trial®)

TAP record of success provides scientific & investment credibility, and visibility enabling companies to raise additional funds.
TAP PORTFOLIO THERAPEUTIC PLATFORMS FUNDED (2007-2021)

Portfolio is aligned with strong industry focus on Targeted Therapy and reflects growing interest in Cell and IO Therapies in blood cancer

- Targeted Therapy
- Novel IO/antibody
- Cell Therapy
- Epigenetic
- Fusion
- Vaccine
- ADC
- Novel Chemo
- Bispecific
- Protein Degrader
- RNA

71 Projects

>$125 Million
TAP PORTFOLIO INVESTMENTS IN ACUTE MYELOID LEUKEMIA (AML)

TAP team understands & successfully invests in complex therapeutic areas

High Unmet Medical Need

- 72,000 newly diagnosed in 8 major markets (2019)
- >10,000 deaths per year in US
- Complex, heterogeneous disease
- Ineffective long-term disease control with current therapies
- Elderly patients not fit for chemo
- Growing use of targeted therapies and combinations

Significant Market Opportunity

- Global AML market $1.4 Billion (2019)
- CAGR 13.6% (projected to 2029)

Overview of the development pipeline 2020 @GlobalData
<table>
<thead>
<tr>
<th>Therapy</th>
<th>Target/Modality</th>
<th>Indications</th>
<th>Preclinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 2 Reg / Phase 3</th>
<th>FDA status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magrolimab + Azacitidine</td>
<td>CD47 antibody</td>
<td>MDS</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>AFM13</td>
<td>CD30/CD16A bispescic engager</td>
<td>PTCL</td>
<td></td>
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<tr>
<td>Pelabresib + Ruxolitinib</td>
<td>small molecule</td>
<td>MPN</td>
<td></td>
<td></td>
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<tr>
<td>Duvelisib</td>
<td>PI3Kδ/y small molecule</td>
<td>PTCL</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Magrolimab + Ritusimab</td>
<td>CD47 antibody</td>
<td>DLBCL</td>
<td></td>
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<tr>
<td>Cusatuzumab + Azacitidine</td>
<td>CD70 antibody</td>
<td>AML</td>
<td></td>
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<tr>
<td>KO-539</td>
<td>Menin small molecule</td>
<td>AML</td>
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<tr>
<td>STR0-001</td>
<td>CD74 antibody drug conjugate</td>
<td>NHL/MM</td>
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<tr>
<td>Mavorixafor + Ibrutinib</td>
<td>CXCR4 small molecule</td>
<td>Waldenström macroglobulinemia</td>
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<tr>
<td>RVU120</td>
<td>CDK8/19 small molecule</td>
<td>AML/MM</td>
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<tr>
<td>PVX-410 + ACY241 +/- Len</td>
<td>XBP1/CD138/CS1 Vaccine</td>
<td>Smoldering myeloma</td>
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<tr>
<td>NEXI-001</td>
<td>T cell therapy</td>
<td>AML/MM</td>
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<tr>
<td>NEXI-002</td>
<td>CK16/CDK7/CDK9 small molecule</td>
<td>AML/MDS</td>
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<tr>
<td>BTX-AS1</td>
<td>LILRB4 antibody</td>
<td>AML/CML</td>
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<tr>
<td>IO-202</td>
<td>CD19/PD1 KO allogeneic CAR</td>
<td>NHL</td>
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<tr>
<td>CB-610</td>
<td>IRAKIMID degrader</td>
<td>DLBCL</td>
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<td>KT-413</td>
<td>STAT3 degrader</td>
<td>Heme malignancies</td>
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<tr>
<td>KT-333</td>
<td>CD161 antibody</td>
<td>NHL</td>
<td></td>
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<tr>
<td>TBD</td>
<td>in vivo CAR</td>
<td>TBD</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>TBD</td>
<td>CAR macrophage</td>
<td>TBD</td>
<td></td>
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</tr>
</tbody>
</table>

1: Acquired by Gilead  
2: Acquired by Morphosys  
3: Duvelisib acquired by Secura Bio  
4: Licensed from University of Michigan
**TAP FUNDED ASSETS CREATE VALUE**

TAP portfolio partners have had successful M&A, collaboration and licensing transactions

<table>
<thead>
<tr>
<th>Kite Pharma</th>
<th>GILEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FORTY SEVEN</strong></td>
<td></td>
</tr>
<tr>
<td>Constellation Pharma</td>
<td><strong>morphosys</strong></td>
</tr>
<tr>
<td>Celator Pharmaceuticals</td>
<td>Jazz Pharmaceuticals</td>
</tr>
<tr>
<td>Stemline</td>
<td>MENARINI group</td>
</tr>
<tr>
<td>Kiadis Pharma</td>
<td>SANOFI</td>
</tr>
<tr>
<td>Acetylon</td>
<td>Celgene</td>
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<tr>
<td>Epizyme</td>
<td>WindMIL Therapeutics</td>
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<tr>
<td>AVILA</td>
<td></td>
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<td>JOHNS HOPKINS Medicine</td>
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<td><strong>M</strong></td>
<td><strong>KURA Oncology</strong></td>
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</tbody>
</table>

**Transactions**

>$20 Billion
## TAP PORTFOLIO COMPANY WITH ASSETS IN ACTIVE BLOOD CANCER DEVELOPMENT

### SIGNIFICANT EQUITY FINANCING RAISED CONCURRENT WITH OR POST-LLS TAP FUNDING

<table>
<thead>
<tr>
<th>Equity since TAP Funding*</th>
<th>TAP Portfolio Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;$1 Billion</td>
<td>argenx Epizyme</td>
</tr>
<tr>
<td>&gt;$500 Million</td>
<td>Constellation¹</td>
</tr>
<tr>
<td></td>
<td>Kura²</td>
</tr>
<tr>
<td></td>
<td>Kymera²</td>
</tr>
<tr>
<td>$250-$500 Million</td>
<td>Caribou²</td>
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<tr>
<td></td>
<td>Curis</td>
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<tr>
<td></td>
<td>Forty Seven³</td>
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<tr>
<td></td>
<td>Sutro</td>
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<tr>
<td>$100-$250 Million</td>
<td>Affimed</td>
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<tr>
<td></td>
<td>BioTheryx²</td>
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<tr>
<td></td>
<td>Neximmune²</td>
</tr>
<tr>
<td></td>
<td>X4²</td>
</tr>
<tr>
<td>$50-$100 Million</td>
<td>Carisma²</td>
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<td></td>
<td>Immune-Onc²</td>
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<td></td>
<td>Immunitas²</td>
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<tr>
<td></td>
<td>Ryvu</td>
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<tr>
<td></td>
<td>WindMIL²</td>
</tr>
<tr>
<td>&lt;$50 Million</td>
<td>Abintus²</td>
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<tr>
<td></td>
<td>Indaptus²</td>
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<tr>
<td></td>
<td>OncoPep²</td>
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</tbody>
</table>

Table includes assets without a regulatory approval. *GlobalData as of August 31, 2021 ¹: LLS asset funding (07/2021 M&A by MorphoSys); ²: LLS equity; ³: LLS equity participation plus asset funding (05/2020 M&A by Gilead)
KEY POINTS

LLS TAP has established record of success
- Targeting unmet medical needs
- Leading to FDA approvals of life changing therapeutics
- Creating value for patients, companies and ROI for the LLS mission

LLS would like to expand the reach & impact of the TAP program
- Leverage its unique expertise in novel collaborations
- Attract more companies and investors to blood cancer indications
- Expand TAP capacity to support the most promising assets

For more information, contact:
Lore Gruenbaum, PhD 914.821.8361 | Lore.Gruenbaum@LLS.org
Javeed Froozan, MBA 914.821.8817 | Javeed.Froozan@LLS.org
TAP
SUCCESS STORIES
TAP SUCCESS: NOVEL LIPOSOMAL CYTOTOXIC THERAPY

Vyxeos® is the first FDA-approved treatment for two types of poor-prognosis AML (2017)

ACQUIRED BY JAZZ PHARMA FOR $1.5 BILLION IN 2016

LLS TAP PROVIDED:

$9.15 MILLION ASSET FUNDING

ROI: $25.3 MILLION

Five-year final results of a phase 3 study of CPX-351 versus 7+3 in older adults with newly diagnosed high-risk/secondary AML

J. Lancet et al., ASCO 2020
TAP SUCCESS: CD19 CHIMERIC ANTIGEN RECEPTOR (CAR) T-CELL THERAPY

_Yescarta®_ is the first FDA-approved CAR-T Therapy in NHL (2017)

LLS has invested > $80 M in Cellular Immunotherapy since 1998

**ACQUIRED BY GILEAD FOR $11.9 BILLION IN 2017**

**LLS TAP PROVIDED:**

**$2.5 MILLION ASSET FUNDING**

**ROI: $6.25 MILLION**

Long-term safety and activity of axicabtagene ciloleucel in refractory large B-cell lymphoma (ZUMA-1): a single-arm, multicenter, Ph 1-2 trial

*Locke et al. 2019. Lancet Oncology*
ACQUIRED BY MENARINI GROUP FOR $677 MILLION IN 2020

LLS TAP PROVIDED:
$2.9 MILLION NET ASSET FUNDING
ROI: $7.25 MILLION TO DATE

Treatment outcomes of 29 patients with blastic plasmacytoid dendritic cell neoplasm (BPDCN) who received first-line treatment with tagraxofusp: Probability of overall survival

Pemmaraju et al., 2019. NEM
TAP SUCCESS: MAGROLIMAB (ANTI-CD47 ANTIBODY)

Magrolimab + Azacitidine induces high response rates in MDS and AML
Initiation of registration-enabling studies in 2020

ACQUIRED BY GILEAD FOR $4.9 BILLION IN 2020

LLS TAP PROVIDED:

$4.175 MILLION ASSET FUNDING
$3 MILLION EQUITY INVESTMENT

ROI: >$40 MILLION

Magrolimab blocks the ‘don’t eat me’ signal on tumor cells

- Magrolimab + AZA induces a 93% ORR (42% CR) in MDS and 64% ORR (56% CR/CRi) in AML
- Responses deepened over time with a 56% 6-month CR rate in MDS patients (assessed in all patients 6 months after initial treatment)
- Median time to response is 1.9 months, more rapid than AZA alone
- Magrolimab + AZA efficacy compares favorably to AZA monotherapy (CR rate 6-17%) (1,2)

TAP SUCCESS: KO-539 (MENIN INHIBITOR)
First-in-class inhibitor of the menin-MLL interaction in Ph1 trial for patients with relapsed/refractory AML

KO-539 Demonstrates Encouraging Early Clinical Activity

**Clinical activities observed in 6 patients (efficacy evaluable = 8)**

<table>
<thead>
<tr>
<th>Dose</th>
<th>Mutational Profile</th>
<th>CYP3A4 inhibitor</th>
<th># of prior regimens</th>
<th>Clinical Activity</th>
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</thead>
<tbody>
<tr>
<td>400 mg</td>
<td>RUNX1, SRSF2, ASXL1, TET2, STAG2, BCOR, PTPN11</td>
<td>Yes</td>
<td>3</td>
<td>Decreased peripheral blasts</td>
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<tr>
<td>200 mg</td>
<td>U2AF1, TET2, p53, DNMT3A, PTPN11</td>
<td>No</td>
<td>4</td>
<td>Stable disease</td>
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<tr>
<td>100 mg</td>
<td>NPM1, FLT3-ITD, TET2, CUX1</td>
<td>Yes</td>
<td>4</td>
<td>Morphological leukemia-free state</td>
</tr>
<tr>
<td>100 mg</td>
<td>NPM1, DNMT3A, KMT2D</td>
<td>Yes</td>
<td>7</td>
<td>CR, MRD-</td>
</tr>
<tr>
<td>50 mg</td>
<td>SETD2, RUNX1</td>
<td>Yes</td>
<td>2</td>
<td>CR, MRD+</td>
</tr>
<tr>
<td>50 mg</td>
<td>KMT2A-r</td>
<td>Yes</td>
<td>2</td>
<td>Decreasing hydra requirement</td>
</tr>
</tbody>
</table>

Data as of 02 November 2020

- Grants initially and then TAP supported preclinical development (including chemistry) of menin-MLL interaction inhibitors by Jolanta Grembecka at University of Michigan and licensing of assets to Kura Oncology in Dec 2014
- Phase 1/2a trial for R/R AML with MLL fusions/NPM1 mutations
  - First patient dosed in Sept 2019
  - Initiated expansion cohorts in July 2021
TAP SUCCESS: PELABRESIB (BET INHIBITOR)
Pelabrelib + Ruxolitinib induces high spleen volume response rates in JAK-naive myelofibrosis
Initiation of registration-enabling study in 2020

First Novel Mechanism Beyond JAK Inhibitors to Demonstrate POC in 1L MF

- Robust response rate to date in trial of > 60 1L patients
- Strong activity observed as a monotherapy and add on to ruxolitinib 2L+ patients
- Translational data and improvement in anemia supports disease-modifying potential
- Pelabresib has been generally well-tolerated to date
- Phase 3 trial (MANIFEST-2) under way

ACQUIRED BY MORPHOSYS FOR $1.7 BILLION IN 2021

LLS TAP PROVIDED:
$7.35 MILLION ASSET FUNDING
ROI: $7.35 MILLION TO DATE

24-Week SVR35 Rate
Upfront combo with ruxolitinib

<table>
<thead>
<tr>
<th>1L setting (Am 3)</th>
<th>COMFORT-1*</th>
<th>COMFORT-2**</th>
<th>SIMPLIFY-1***</th>
</tr>
</thead>
<tbody>
<tr>
<td>67% (42/63)</td>
<td>41.9%</td>
<td>32%</td>
<td>29%</td>
</tr>
</tbody>
</table>

SVR35 response = ≥35% spleen volume reduction (measured at 24 Weeks)

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casey Cunningham, MD (Chair) +</td>
<td>Santé Ventures</td>
</tr>
<tr>
<td>Stephen Ansell, MD, PhD</td>
<td>Mayo Clinic Rochester</td>
</tr>
<tr>
<td>Madhav Dhodapkar, MBBS</td>
<td>Emory University</td>
</tr>
<tr>
<td>Courtney DiNardo, MD</td>
<td>The University of Texas MD Anderson Cancer Center</td>
</tr>
<tr>
<td>Giulio Draetta, MD, PhD</td>
<td>The University of Texas MD Anderson Cancer Center</td>
</tr>
<tr>
<td>Christopher Flowers, MD +</td>
<td>The University of Texas MD Anderson Cancer Center</td>
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<tr>
<td>Patrick Fortune, PhD, MBA</td>
<td>Partners Healthcare Systems</td>
</tr>
<tr>
<td>Tapan Kadia, MD</td>
<td>The University of Texas MD Anderson Cancer Center</td>
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<tr>
<td>Laura Kaufman, PhD, DABT</td>
<td>Private Consultant</td>
</tr>
<tr>
<td>Ronald Levy, MD</td>
<td>Stanford University School of Medicine</td>
</tr>
<tr>
<td>Fred Locke, MD</td>
<td>Moffitt Cancer Center</td>
</tr>
<tr>
<td>Ruben Mesa, MD +</td>
<td>UT Health San Antonio</td>
</tr>
<tr>
<td>Vern Norviel, JD</td>
<td>Wilson Sonsini Goodrich &amp; Rosati</td>
</tr>
<tr>
<td>Daniel Pollyea, MD</td>
<td>University of Colorado</td>
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<tr>
<td>Jim Reddoch, PhD</td>
<td>Royalty Pharma</td>
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<tr>
<td>Robert Rosen, JD +</td>
<td>Grewhawke Capital Advisors</td>
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<tr>
<td>Steven Rosen, MD</td>
<td>City of Hope</td>
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<tr>
<td>Robert Spiegel, MD</td>
<td>Spiegel Consulting LLC</td>
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<tr>
<td>David Weinstock, MD</td>
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