THERAPY ACCELERATION PROGRAM

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

December 2020
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
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 66 portfolio projects since 2007

Beat AML® Master Clinical Trial
LLS Sponsored precision medicine trial

BEATING CANCER IS IN OUR BLOOD.
LLS THERAPY ACCELERATION PROGRAM (TAP)
Venture philanthropy funding to support novel therapies

Established in 2007

>$120 Million invested to date
- Biotech: >$80 Million
- Institutions: ~$40 Million
- >60 financings of companies and assets
- >20 assets currently in clinical 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.
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, managed over 20 TAP partnerships including Constellation, Epizyme, miRagen & most recently Kymera  
- 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, and Forty Seven

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

BEATING CANCER IS IN OUR BLOOD.
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
- LLR STAFF EVALUATION: 40 - 50
- CONFIDENTIAL PRESENTATION: 20 - 30
- EXTERNAL EXPERT CONSULTATION: 5 - 10
- TAP COMMITTEE REVIEW: 2 - 4
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 month 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 ACADEMIC CLINICAL MODEL
Co-fund assets with institutions on clinical stage projects

**Therapeutics Development**
Collaborate with leading institutions on assets with potential to outlicense or spin out

**Clinical Indication Expansion**
Actively solicit and fund innovative ISTs to impact the current SoC

**Special Projects**
Build collaborations with non-profits and other cooperative groups
TAP PORTFOLIO THERAPEUTIC PLATFORMS FUNDED (2007-2020)

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

66 Projects

$118 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)

*FDA approved

Overview of the development pipeline
2020 @GlobalData
## TAP PORTFOLIO ASSETS IN DEVELOPMENT

<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>
</tr>
</thead>
<tbody>
<tr>
<td>Magrolimab + Azacitidine</td>
<td>CD47 antibody</td>
<td>MDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFM13</td>
<td>CD30/CD16A</td>
<td>PTCL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPI-0610 +/- Ruxolitinib</td>
<td>BET small molecule</td>
<td>MPN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duvelisib + Romidepsin</td>
<td>PIK3K5/γ</td>
<td>PTCL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magrolimab + Ruximab</td>
<td>CD47 antibody</td>
<td>DLBCL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobomarsen</td>
<td>miR-155 small molecule</td>
<td>CTCL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K-NK002</td>
<td>NK Cell Therapy</td>
<td>AML/MDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cusatuzumab + Azacitidine</td>
<td>CD70 antibody</td>
<td>MDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cusatuzumab + Ven + Aza</td>
<td>CD70 antibody</td>
<td>AML</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRO-001</td>
<td>CD74 antibody drug conjugate</td>
<td>MM/DLBCL/ MCL/FL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mavokixafor + Ibrutinib</td>
<td>CXCR4 small molecule</td>
<td>Waldenström macroglobulinemia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEL120</td>
<td>CDK8/19 small molecule</td>
<td>AML/MDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVX-410 +/- ACY-241 + Len</td>
<td>XBP1/CD138/CS1 vaccine</td>
<td>Smoldering myeloma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KO-539</td>
<td>Menin small molecule</td>
<td>MLL leukemia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEXI-001</td>
<td>T Cell Therapy</td>
<td>AML</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEXI-002</td>
<td>T Cell Therapy</td>
<td>Multiple myeloma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BTX-A51</td>
<td>CK1α/CDK7/CDK9 small molecule</td>
<td>AML/MDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROTACs</td>
<td>IRAK4 &amp; STAT3 small molecules</td>
<td>Lymphoma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in vivo CAR</td>
<td>T Cell Therapy</td>
<td>Lymphoma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1: Acquired by Gilead  
2: Licensed to Secura Bio  
3: Deprioritized  
4: Acquisition by Sanofi announced  
5: Collaboration with Janssen  
6: Licensed from University of Michigan
TAP FUNDED ASSETS CREATE STRATEGIC VALUE

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

<table>
<thead>
<tr>
<th>LLS TAP Partner</th>
<th>Strategic Acquirer/Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kite Pharma</td>
<td>Gilead</td>
</tr>
<tr>
<td>Celator</td>
<td>Jazz Pharmaceuticals</td>
</tr>
<tr>
<td>Stemline</td>
<td>Menarini Group</td>
</tr>
<tr>
<td>GEN-X</td>
<td>Janssen</td>
</tr>
<tr>
<td>AVILA</td>
<td>Acetylon Pharmaceuticals</td>
</tr>
<tr>
<td></td>
<td>Epizyme</td>
</tr>
<tr>
<td></td>
<td>Celgene</td>
</tr>
<tr>
<td>Kiadis</td>
<td>Sanofi</td>
</tr>
<tr>
<td>Verastem Oncology</td>
<td>SecuraBio</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>Kura Oncology</td>
</tr>
<tr>
<td>John Hopkins Medicine</td>
<td>WindMIL Therapeutics</td>
</tr>
</tbody>
</table>

Kiadis-Sanofi transaction announced November 2, 2020
TAP PORTFOLIO COMPANY WITH ASSETS IN ACTIVE BLOOD CANCER TRIALS

<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></td>
<td></td>
</tr>
<tr>
<td>&gt;$500 Million</td>
<td>Constellation Kura&lt;sup&gt;2&lt;/sup&gt; [Onconova]</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>$250-$500 Million</td>
<td>Forty Seven&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>$100-$250 Million</td>
<td>Affimed Sutro miRagen&lt;sup&gt;2&lt;/sup&gt; X4&lt;sup&gt;2&lt;/sup&gt; Curis Kymera&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>$50-$100 Million</td>
<td>BioTheryx&lt;sup&gt;2&lt;/sup&gt; Ryvu WindMIL&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;$50 Million</td>
<td>Neximmune&lt;sup&gt;2&lt;/sup&gt; OncoPep&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Table includes assets without a regulatory approval. *GlobalData as of July 15, 2020
1: LLS equity participation plus asset funding (05/2020 M&amp;S by Gilead); 2: LLS equity

SIGNIFICANT EQUITY FINANCING RAISED SINCE LLS TAP FUNDING
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
TAP SUCCESS: NOVEL TARGETED CD123 FUSION PROTEIN

*Elzonris®* is the first approved therapy for rare blood cancer indication BPDCN (2018)

ACQUIRED BY MENARINI GROUP FOR $677 MILLION IN 2020

LLS TAP PROVIDED:

$2.9 MILLION NET ASSET FUNDING

ROI: $5.8 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

<table>
<thead>
<tr>
<th>Best Overall Response</th>
<th>1L MDS N=33</th>
<th>1L AML N=25</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORR</td>
<td>30 (91%)</td>
<td>16 (64%)</td>
</tr>
<tr>
<td>CR</td>
<td>14 (42%)</td>
<td>10 (40%)</td>
</tr>
<tr>
<td>CRI</td>
<td>NA</td>
<td>4 (16%)</td>
</tr>
<tr>
<td>PR</td>
<td>1 (3%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>MLFS/marrow CR</td>
<td>8 (24%)</td>
<td>4 (16%)</td>
</tr>
<tr>
<td>with marrow CR + HI</td>
<td>4 (12%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Hematologic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement (HI)</td>
<td>7 (21%)</td>
<td>NA</td>
</tr>
<tr>
<td>SD</td>
<td>3 (9%)</td>
<td>8 (32%)</td>
</tr>
<tr>
<td>PD</td>
<td>0</td>
<td>1 (4%)</td>
</tr>
</tbody>
</table>

ROI: $40 million

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

- Magrolimab + AZA induces a 91% 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%).

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 is a potent & selective menin-MLL inhibitor with robust activity in models of MLL-rearranged AML

- 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
- KO-539 received orphan drug designation in July 2019; in ph1/2a trial for r/r AML with MLL fusions/NPM1 mutations (FPI in Sep 2019)

PRECLINICAL COMPOUNDS RELATED TO KO-539 LICENSED TO KURA ONCOLOGY IN 2015

LLS TAP PROVIDED:

$6.31 MILLION ASSET FUNDING TO U MICHIGAN

ROI: EQUITY: 26,000+ SHARES + $26,000+ CASH TO DATE

Burrows et al. 2017. AACR poster
THERAPY ACCELERATION PROGRAM COMMITTEE

Casey Cunningham, MD (Chair) +
Santé Ventures

Giulio Draetta, MD, PhD
The University of Texas MD Anderson Cancer Center

Christoper Flowers, MD, MS, FASCO +
The University of Texas MD Anderson Cancer Center

Patrick Fortune, PhD, MBA
Partners Heathcare Systems

Laura Kaufman, PhD, DABT
Private Consultant

Ronald Levy, MD
Stanford University School of Medicine

+ National Board Member

Vern Norviel, Esq.
Wilson Sonsini Goodrich & Rosati

Robert Rosen, JD +
Grewhawke Capital Advisors

Steven Rosen, MD, FACP
City of Hope

Robert Spiegel, MD, FACP
Spiegel Consulting LLC

David Weinstock, MD
Dana-Farber Cancer Institute
THANK YOU!

LLS Research Grants and TAP

Lee Greenberger, PhD
CSO & SVP Research

Michael Yaffe, PhD
VP of Research

Erik Nelson, PhD
Exec. Dir. Research

James Kasper, MS
Sr. Dir. Research

Orsi Giricz, PhD
Dir. Research

Lore Gruenbaum, PhD
VP of TAP

Jun Xu, Ph.D.
Exec. Dir. TAP

Blaine Robinson, PhD
Exec. Dir. TAP

Javeed Froozan, MBA
VP of BD & Alliance