FORWARD LOOKING STATEMENTS

This presentation contains forward-looking statements. Such forward-looking statements can be identified by the use of the words “expect,” “believe,” “will,” “anticipate,” “estimate,” “plan,” “project” and other words of similar import. The forward-looking statements in this presentation include, but are not limited to, statements related to the potential of our clinical candidates as therapeutic options for various cancers, the general development of the Company’s product candidate pipeline and anticipated milestone dates, and the effects of the Company’s approach to cancer treatment. These forward-looking statements are based on current plans, objectives, estimates, expectations and intentions, and inherently involve significant risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks and uncertainties associated with immune-oncology product development and clinical success thereof, the uncertainty of regulatory approval, and other risks and uncertainties affecting SELLAS and its development programs. These risks and uncertainties are described more fully under the caption “Risk Factors” in the in SELLAS’ Annual Report on Form 10-K filed on March 22, 2019 and in its other filings with the Securities and Exchange Commission. Other risks and uncertainties of which SELLAS is not currently aware may also affect SELLAS’ forward-looking statements. The forward-looking statements herein are made only as of the date hereof. SELLAS undertakes no obligation to update or supplement any forward-looking statements to reflect actual results, new information, future events, changes in its expectations or other circumstances that exist after the date as of which the forward-looking statements were made.
Pivotal Phase 3 Development Programs

- Galinpepimut-S (GPS) WT1 peptide vaccine
  - Acute myeloid leukemia (AML) with orphan drug designation (ODD) and fast track status
- Nelipepimut-S (NeuVax, NPS) HER-2 peptide vaccine
  - Combination NPS + trastuzumab in triple negative breast cancer (TNBC) with fast track status

Innovative Technology

- GPS incorporates heteroclitic technology to preserve and increase WT1 antigenicity
  - Multivalent to address 25 WT1 optimally selected epitopes; NCI’s #1 ranked cancer antigen
  - Induces CD4 and CD8 activation across multiple tumor types without HLA type restrictions
- NPS targets immunodominant HER2 peptide fragment

Robust Pipeline

- GPS has demonstrated efficacy as monotherapy and in combination with other IO therapies across multiple tumor types in earlier stage trials
  - Multiple myeloma (ODD and fast track status), malignant pleural mesothelioma (ODD and fast track status), and ovarian cancer in combination with IO
- E39 peptide vaccine (folate binding protein)
  - Efficacy observed in Phase 1/2a study in ovarian and endometrial cancer

Broad and Strong Intellectual Property

- GPS: Composition of matter protection to 2033
- NPS: Method of use protection to at least 2028 (additional applications pending)
- E39 peptide: Method of use protection to at least 2036 (additional applications pending)

Experienced Leadership Team

- Leadership with significant experience in vaccine and immunotherapy development, as well as deep operational and business development expertise
- Board members include highly seasoned pharma and biotechnology executives and innovator of GPS; SAB includes global leaders in oncology
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<tr>
<td><strong>Angelos Stergiou, M.D., ScD h.c.</strong></td>
<td>President, Chief Executive Officer</td>
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<td><img src="#" alt="NIH" />, <img src="#" alt="MD Anderson Cancer Center" />, <img src="#" alt="SANOFI" />, <img src="#" alt="Incyte" /></td>
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<td>EVP, General Counsel &amp; Corporate Secretary</td>
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<td><strong>John T. Burns, CPA</strong></td>
<td>VP, Finance &amp; Corporate Controller</td>
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CLINICAL PROGRAM OVERVIEW

**Galinpepimut-S (GPS): WT1 peptide vaccine**

- **Acute myeloid leukemia (AML):** In an open-label Phase 2 study with older patients (≥60 years; historical control ~12 months) median overall survival reached 35.3 months and 67.6 months across all ages when administered for maintenance after achievement of first complete response (CR1); Phase 2 study in CR2 showed a median OS of 16.3 months (GPS) vs. 5.4 months in contemporaneously treated patient cohort; **pivotal Phase 3 study in CR2 planned (pending funding) and key priority for SLS**

- **Malignant pleural mesothelioma (MPM):** Blinded, randomized-controlled Phase 2 demonstrated 22.8 months median overall survival compared with 18.3 months with controls when administered for maintenance after successful 1st line debulking multimodality therapy.

- **Multiple myeloma (MM):** In an open-label Phase 2 study median progression-free survival reached 23.6 months (historical control 14.0 months) when administered for maintenance (with lenalidomide) after 1st successful autotransplant in very high-risk patients; median overall survival not yet reached

- **Ovarian cancer (with nivolumab):** In an open-label Phase 1 study in combination with PD1 inhibitor (nivolumab) when administered for maintenance after debulking with 1st/2nd salvage chemoRx, progression-free survival (PFS) rate at one year was 70% in patients treated with at least two doses of GPS

- **Five tumor types (with pembrolizumab):** Open-label, basket-type Phase 1/2 study in combination with PD1 inhibitor (pembrolizumab) with immune and clinical (ORR) responses as endpoints in advanced metastatic disease (CRC, SCLC, TNBC, ovarian, AML on hypomethylating agents); initially in AML and ovarian patients; study is enrolling patients

**Nelipepimut-S (NPS): HER2 peptide vaccine**

- **Triple Negative Breast Cancer; TNBC (in combination with trastuzumab):** Randomized, single blinded Phase 2b resulted in a 75.2% reduction in relative risk of tumor recurrence in the active arm vs. control with a **HR=0.26 (p=0.013)** when administered in the adjuvant setting after successful first-line therapy (surgery plus chemoRx); pivotal Phase 3 study planned

**E39: Folate binding peptide (FBP) vaccine**

- **Ovarian/Endometrial Cancer:** Phase 1/2a trial showed disease-free survival (DFS) in patients administered an optimal dose of E39 to be improved vs control patients: 77.9% vs 40.0%, respectively **(p=0.013)** when administered in the adjuvant setting after successful standard of care therapies
## DEVELOPMENT PIPELINE

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<td>Acute Myeloid Leukemia (AML)</td>
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<td>Immune Combo (w/Pembrolizumab) - MRK</td>
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<td>Combo w/ Trastuzumab (HER2 1+/2+)</td>
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<td><strong>E39 Peptide (Folate Binding) – Ovarian Cancer Development Programs</strong></td>
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<td>Single agent activity</td>
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- **Completed**
- **Planned (pending funding)**
- **Ongoing**
# ANTICIPATED NEAR-TERM MILESTONES

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<td>Q4 2020</td>
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GPS CLINICAL PROGRAM
GPS: NOVEL PEPTIDE ENGINEERED FOR DIFFERENTIATED IMMUNOTHERAPY

Specificity across multiple HLA types and potentially applicable to 20+ cancer types

Multivalent 4 peptide chains (25 epitopes)

Heteroclitic peptide increases immune response and mitigates tolerance, while maintaining antigenicity profile

Production of both CD4 and CD8 WT1-specific activated cells

Activity predicated upon overcoming barriers of adverse/immunosuppressive tumor micro-environment (TME)

Spurs multi-epitope, broad cross-reactivity along the full length of the WT1 protein

Multivalent 4 peptide chains (25 epitopes)

Spurs multi-epitope, broad cross-reactivity along the full length of the WT1 protein

Heteroclitic peptide increases immune response and mitigates tolerance, while maintaining antigenicity profile

Production of both CD4 and CD8 WT1-specific activated cells

Activity predicated upon overcoming barriers of adverse/immunosuppressive tumor micro-environment (TME)

*Mutated peptide (native sequence has R instead of Y)
• Primary endpoint of 3-year OS > 34% was met: 47.4%

• Prolonged median overall survival: 67.6 months (all ages) (vs. current SOC of 17.5-25 mos)

• Aggregate population of patients ≥ 60 years (Phase 3 population): median overall survival (mOS) = 35.3 months in Phase 2 (vs. SOC of ~ 12-24 mos in elderly)
  • Patients ≥ 60 years in CR1 demonstrated statistically significant 3-yr OS rate vs. predefined threshold

• 88% of patients had evidence of antigen-specific immune response, either CD8+ or CD4+, to any of the 4 peptides in GPS after vaccination at any time tested

• CD4+ responses seen across HLA-Class II subtypes tested

• No discernable effect of HLA allelic type expression on clinical outcomes

• No Grade 3 or worse systemic side effects were observed

• Successful End-of-Phase 2 meeting with FDA; finalized Phase 3 program
AML patients receiving ≥ 2 administrations of GPS (n=10) compared to group of paired patients in CR2 contemporaneously treated at MCC during a similar time period (n=15)

- Overall survival (OS) in GPS-treated individuals significantly greater vs. the compared group, **16.3 months vs. 5.4 months** (p = 0.0175)
PLANNED PHASE 3 STUDY IN AML

• Successful End-of-Phase 2 Meeting with FDA
  • Agreed: study design, endpoints, statistical analysis and CMC
• Primary endpoint is overall survival; secondary endpoints include LFS, safety, rate of achievement of MRD negativity, antigen-specific T-cell immune response dynamics
• Approximately 50 sites in the U.S. and Europe; >100 sites already pre-screened
• Trial population
  • N = 116; adult patients (≥18 yrs)
  • AML in second complete remission (CR2; incl. CR2p), ineligible for or unable to undergo allotransplant following physician’s choice 2nd line antileukemic therapy
• Trial design
  • Open-label; 1:1 randomization, GPS to predefined set of Best Available Therapies (BAT)
  • Up to 15 GPS doses in 1 year post-CR2, maximum study duration from LPI: 1.75 years
  • 91% power to detect a 92% survival relative difference (10.4 vs. 5.4 months; HR of 0.52)
• One pre-planned interim analyses by DSMB for efficacy after the first 80 events
Patient Characteristics:
- N = 11 (open label)
- 7 pts were in second remission and 4 pts were in third remission
- Recurrent WT1+ ovarian cancer in 2\textsuperscript{nd} (n=7) or greater (n=4) clinical remission after salvage chemotherapy

Clinical activity
- Landmark 1-year PFS rate = 64% (ITT group), 70% in pts who received >1 dose of GPS + nivolumab (n=10).
- Historical PFS rates do not exceed 50% in this setting

Immune responses
- WT1-specific IgG observed in 86% of patients (wks 6 – 27)
- CD4 and CD8 T cell responses also observed (wks 6 – 15).

Safety:
- Most frequent TRAEs: injection site reaction (G\leq1), joint pain (G\leq2) and fatigue (G\leq2)
- DLT in one patient, with G3 myositis (incl. cardiac involvement); resolved
  - AE known to be associated with the use of nivolumab.

O’Cearbhaill RE et al. ASCO 2018; Abstr. 5553
PHASE 2A STUDY OF GPS + PEMBROLIZUMAB (KEYTRUDA): MERCK COLLABORATION – PATIENT ENROLLMENT INITIATED

SCHEMA

• Adult patients (>18 yrs) with confirmed WT1 expression (by IHC)
• Presence of technically biopsy-accessible lesions
• CRC: tumor samples genomically tested for microsatellite status (MSS vs MSI)

ENROLLMENT

N = 10-20
N = 10-20
N = 10-20
N = 10-15
N = 10-15

CRC^ 3/4L
OvC 2/3L
SCLC 2L
TNBC 2L
AML in PR (HMAs)*

Galinpepimut-S
(200 µg/ peptide x 4 → 800 µg/dose)
→ Administered SC

Pembrolizumab (Keytruda)
(200 mg every 3 weeks)
→ Administered IV

Treatment continued until disease progression or unacceptable toxicity (up to 111 weeks)

Study Endpoints

Primary Endpoints:
• Safety
• ORR (RECIST and iRECIST)
• Rates of CR*, achievement of MRD(-) status (for AML only)

Exploratory Endpoints:
• PFS, OS
• Immune Response Correlates
  - Peripheral Blood:
  - Tumor tissue (for solid tumors) or bone marrow (for AML)

Trial Design:
• Open-label, 20 U.S. centers, multi-arm combination trial
• N = 90 (total)

N.B.: Study is conducted under a CTSA with Merck (known as MSD outside the United States and Canada; tradename of Merck & Co., Inc., Kenilworth, N.J., USA)

^: focus will be genomically microsatellite-stable (MSS); *: Allotransplant non-eligible; CR: complete response (includes CRi/CRp, in addition to stringent CR)
L: line of therapy; SC: subcutaneously; IV: intravenously; d: day; BL: baseline; BM: bone marrow; CTSA: Clinical Trial Collaboration and Supply Agreement’ WT1: Wilms Tumor-1 (protein); ORR: overall response rate; DOR: duration of response; PFS: progression-free survival; OS: overall survival; PR: partial response; MRD: minimal residual disease; GPS: galinpepimut-S; PS: performance status; MDSC: myeloid-derived suppressor cells; Treg: regulatory T cells; TAM: tumor-associated macrophages; CRC: colorectal Ca; OvC: ovarian Ca; SCLC: small-cell lung cancer; TNBC: triple-negative breast Ca; AML: acute myelogenous leukemia; HMAs: hypomethylating agents.
NELIPEPIMUT-S (NPS): HER2 IMMUNODOMINANT PEPTIDE

- NPS contains immunodominant peptide derived from the extracellular region of HER2 protein
- E75 is a major histocompatibility complex (MHC) class I epitope that stimulates a CD8+ CTL response (MHC Class I: HLA-A02/A03/A24/A26)
- Administered as intradermal injection
- Target population: TNBC patients
  - Patients who are hormone receptor-negative and HER2 1+/2+ by IHC
  - 30% of HER2 1+/2+ breast cancer patients; 15% of all breast cancer patients
  - Experience highly aggressive recurrence rate (36% in 3 years) resulting in greater than 75% mortality in progressors.
  - No FDA-approved targeted therapies for this population
- NPS was shown to be synergistic with Herceptin preclinically in low/intermediate HER2 expressing tumors
- Phase 2b study of NPS + Herceptin in population of breast cancer patients that included a large population of TNBC
  - Clinically meaningful and statistically significant difference in TNBC
  - Recommendation from DSMB to expeditiously seek regulatory guidance by the FDA and EMA for further development of NPS + Herceptin in TNBC
Phase 2b: N = 275 patients

Two primary study target patient populations
- Lymph node-positive and triple-negative breast cancer
- Pre-specified interim analysis by independent DSMB

Clinically meaningful and statistically significant difference in triple-negative breast cancer (TNBC) cohort (n= 98) with a HR of 0.26 (p=0.013) in favor of NPS + Herceptin combination
  - Landmark analysis of DFS rates at 24-mo: 75.2% reduction in relative risk of recurrence or death (active vs. control arm)
  - 72.5% relative reduction in the number of clinically detectable relapses (p=0.004; active vs. control arm)

In vivo T-cell immune responses (IR) by DTH skin testing: time-dependent increase in IR potency vs. earliest data point tested (p=0.000023; active vs. control arm)

Recommendation from DSMB: expeditiously seek regulatory guidance by the FDA and EMA for further development of NPS + Herceptin in TNBC

PHASE 2B NPS + HERCEPTIN COMBINATION TRIAL RESULTS

TNBC COHORT (36% of ITT) – DFS Final Analysis

- Median F/U = 26.1 mo
- 75.2% reduction in risk of recurrence or death at 24 mo (landmark)
- 72.5% relative reduction in the number of clinically detectable relapses (p=0.004; active vs. control arm)
- Time-dependent increase in IR potency vs. earliest data point tested (p=0.000023; active vs. control arm)

Folate Binding Protein-Derived E39 Peptide Vaccine
FOLATE BINDING PROTEIN-DERIVED E39 PEPTIDE VACCINE

- Novel peptide vaccine approach targeting the folate binding protein (FBP)
  - Incorporates peptide E39 of FBP along with its attenuated version E39’ (J65)
  - Induces immunogenicity and decreases the potential for immune tolerance

- Clinical activity in ovarian and endometrial cancer with low expression of FBP
  - Maintenance setting after standard of care therapy
  - No FDA-approved targeted therapies for this population

- Phase 1 trial: active (N=29) vs. contemporaneously monitored controls (N=22) - significant improvement in 24-month DFS rate observed - 55.5% (active) vs. 40.0% (control), p=0.039
  - Patients receiving highest dose of E39 vaccine showed an even greater difference in outcome, with a 24-month DFS of 77.9% (p=0.013)

- Data manuscript submitted; publication expected in 1H 2019
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<tr>
<td>Jane Wasman</td>
<td>Board Chair, Nominating and Governance Committee Chair</td>
<td>ACORDA THERAPEUTICS, Schering-Plough</td>
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<td>Angelos Stergiou, MD, ScD h.c.</td>
<td>Chief Executive Officer</td>
<td>PAION, Aceaeris, Accentia, Analytica, anavex</td>
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<td>John Varian</td>
<td>Audit Committee Chair</td>
<td>XOMA, ARY THERAPEUTICS, VERSARTIS</td>
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<td>Robert Van Nostrand</td>
<td>Compensation Committee Chair</td>
<td>OSI Pharmaceuticals, Achillion, Intra-Cellular Therapies</td>
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<td>Science Committee Chair</td>
<td>Memorial Sloan Kettering Cancer Center, Progenics Pharmaceutics</td>
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<td>Stephen Ghiglieri</td>
<td>Board Member, Audit Committee</td>
<td>MedData, Hansen Medical, Neurogesx</td>
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## SCIENTIFIC ADVISORY BOARD

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<td>Alexander M.M. Eggermont, M.D.</td>
<td>Director General of Institut Gustave Roussy Cancer Campus Grand Paris, Villejuif, France</td>
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<td>Larry W. Kwak, M.D., Ph.D.</td>
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<td>Javier Pinilla-Ibarz, M.D.</td>
<td>Director of Immunotherapy for Malignant Hematology at the H. Lee Moffitt Cancer Center</td>
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