Driven by a novel pharmaceutical platform focused on SELECTIVE IMMUNOMODULATION
Forward Looking Statements

This presentation includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, among other things, statements, other than historical facts, regarding: the progress, scope, duration or results of clinical trials and preclinical studies of inarigivir soproxil (“inarigivir”), SB 9225, SB 11285 or any of our other product candidates or programs, such as the size, design, population, conduct, cost, objective or endpoints of any clinical trial, or the timing for initiation or completion of or availability of results from any clinical trial (including our Phase 2 clinical trial of inarigivir in patients with chronic Hepatitis B virus); the potential benefits that may be derived from any of our product candidates; our future operations, financial position, revenues, costs, expenses, uses of cash, capital requirements or our need for additional financing; or our strategies, goals, milestones, prospects, beliefs, intentions, plans, expectations, forecasts or objectives. Words such as “anticipates,” “believes,” “plans,” “expects,” “projects,” “future,” “intends,” “may,” “will,” “should,” “could,” “estimates,” “predicts,” “potential,” “continue,” “guidance,” and similar expressions sometimes identify forward-looking statements. Any forward-looking statement involves known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from those expressed or implied by such forward-looking statement, and, therefore, you are cautioned not to place undue reliance on any forward-looking statement. These factors include, but are not limited to: whether our cash resources will be sufficient to fund our continuing operations for the period anticipated; the components, timing, costs and results of our clinical trials, preclinical studies and other development activities involving our product candidates; whether certain top-line results from our clinical trials materially change as more information becomes available; whether results obtained in preclinical studies and clinical trials will be indicative of results obtained in future clinical trials; whether inarigivir, SB 9225, SB 11285 and any of our other product candidates will advance through the clinical trial process on a timely basis and receive approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies; and whether, if inarigivir, SB 9225, SB 11285 or any of our other product candidates obtain regulatory approval, it will be successfully distributed and marketed. These and other risks and uncertainties that we face are described in our most recent Annual Report on Form 10-K, filed with the Securities and Exchange Commission (SEC) on March 11, 2019, and in other filings that we make with the SEC from time to time.

All forward-looking statements speak only as of June 1, 2019 and should not be relied upon as representing our views as of any other date. We specifically disclaim any obligation to update any forward-looking statement, except as required by applicable law. All trademarks, service marks, trade names, logos and brand names identified in this presentation are the properties of their respective owners.

This presentation also contains estimates and other statistical data generated by independent parties and by us relating to market size and statistics. These estimates involve a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates.
Spring Bank (NASDAQ: SBPH) Near-Term Investment Opportunity

- Inarigivir demonstrated efficacy and tolerability superior to that reported for interferon therapies in chronic Hepatitis B (HBV) treatment in ACHIEVE Ph 2 Trial
  - ACHIEVE produced important insights on markers for inarigivir responder populations
  - Just launched CATALYST trials with potential to demonstrate HBV functional cure in 2020
  - Potential for inarigivir to enter Phase 3 program in 2H 2020

- Gilead conducting Ph 2 combination trial of inarigivir + Vemlidy® - initial data expected 2H 2019
  - Potential for SB 9225 to enter Phase 3 program in 2H 2020

- 2nd development program, STING agonist SB 11285 IV, on track to enter the clinic in mid-2019
  - Preclinical studies of IV delivery demonstrates potential advantages to intra-tumoral STING agonists
  - Ph 1 SB 11285 IV clinical data expected in 2020

- SBPH antisense oligonucleotide compound for potential “triplet” HBV treatment advancing to pre-clinical POC studies in 2H 2019
  - Multiple data readouts and potential catalysts over next 6 – 15 months
Differentiated Pipeline in HBV, Immuno-Oncology, & Inflammation

<table>
<thead>
<tr>
<th>Therapeutic Areas</th>
<th>Compound</th>
<th>Discovery/Lead Optimization</th>
<th>Preclinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
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<tr>
<td>HBV</td>
<td><strong>Inarigivir</strong></td>
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<td>Monotherapy</td>
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<td>Co-Administration with Gilead’s Vemlidy®</td>
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<td>Co-Administration with NUCs</td>
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<td><strong>SB 9225 (Inarigivir + tenofovir disoproxil fumarate) fixed-dose combination</strong></td>
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<td><strong>HBV antisense oligonucleotide</strong></td>
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<td>Cancers</td>
<td><strong>Second-Generation STING Agonists</strong></td>
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<td><strong>SB 11285 (intravenous, intratumoral)</strong></td>
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<td>ADCs with STING agonist</td>
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<td>Inflammatory Diseases</td>
<td><strong>RIG-I agonist</strong></td>
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<td></td>
<td><strong>STING antagonist</strong></td>
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*Funded by Gilead*
Changing the Chronic HBV Paradigm – From Suppression to Cure

Elevating the Functional Cure Rate - currently only 8 -10%* with interferon (IFN) + nucleos(t)ide (NUC)

A meaningful new therapy will need:

1. A good safety & tolerability profile
2. Ease of administration
3. Achieve finite course of treatment leading to functional cure rates >10%

- HBV is complex and heterogenous
- Combinatorial approach will be required
- Immunomodulation will need to be the backbone
- Today’s treatments offer low potential for finite care

“Combination of antiviral and immune modulatory therapies will likely be needed to achieve functional hepatitis B virus cure.”

*Represents the approximate number of patients that achieved HBsAg clearance after 48 weeks of treatment with αIFN + Viread® HBsAg, hepatitis B surface antigen; HBV, hepatitis B virus; IFN, interferon.
Inarigivir is a RIG-I Agonist designed to:

- **Restore hepatic-selective innate and adaptive immune response** stimulating the production of type I and III IFNs without systemic toxicity
- **Inhibit the HBV replication complex via a direct acting antiviral effect as an NNRTI**
- **Target cccDNA and is only oral agent to demonstrate reduction in HBV DNA, HBV RNA and HBsAg**
- **Potential backbone immunomodulator for combinatorial treatments of HBV**

**HBsAg patient responder rate at 12 and 24 weeks of treatment superior to IFN + Nuc with a significantly better tolerability profile**

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Inarigivir – Backbone Immunomodulator without Systemic Cytokine Toxicity

- Inarigivir 400mg rapidly increased the activation markers of innate immunity on circulating peripheral monocytes and dendritic cells
- Immune activation sustained over dosing period of inarigivir 400mg **without evidence of tolerance**
- Evidence of a potentially favorable adaptive immune profile for antiviral response
  - Associated activation of CD8+ t-cells and downregulation of NK cells
- Demonstrated a lack of systemic cytokine activation resulting in a favorable tolerability profile compared to interferon experience

**Inarigivir, a RIG-I agonist, activates innate immunity in healthy volunteers.** Nina Le Bert¹, Kamini Kunasegaran¹, Meiyin Lin¹, Kevin Leach², Radhakrishnan Iyer², Antonio Bertoletti¹, Nezam Afdhal²; ¹Duke-NUS Medical School, Emerging Infectious Diseases Program, Singapore, Singapore; ²Spring Bank Pharmaceuticals, Hopkinton, United States
ACHIEVE Trial Primary Antiviral Endpoint: Impressive HBV DNA Dose Dependent Response at Week 12

- Similar dose dependent antiviral response HBV RNA
- Differential response in HBeAg-negative versus HBeAg-positive
- Baseline HBsAg, IP-10 and HBV genotype all predictive of antiviral response
ACHIEVE Trial - Role of Genotype on HBsAg Response: 26% of Inarigivir Patients with HBsAg Response ($> 0.5\log_{10}$)

Inarigivir genotype response consistent with that seen with interferon therapy

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<tr>
<th>Genotype</th>
<th>Percentage of Responders</th>
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<tr>
<td>GT A*</td>
<td>100%</td>
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<tr>
<td>GT B</td>
<td>33%</td>
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<tr>
<td>GT C</td>
<td>10%</td>
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<tr>
<td>GT D*</td>
<td>75%</td>
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</table>

*Genotypes A & D are common U.S. and European genotypes*
Major Findings from Inarigivir Phase 2 ACHIEVE Trial

- Inarigivir demonstrated dose dependent responses for HBV DNA and HBV RNA
  - *Baseline HBsAg / IP-10 predict HBV DNA and HBV RNA response*
- HBsAg response ($\geq 0.5\log_{10}$) observed in 26% of patients at either 12 or 24 weeks – numerically superior to historical data of IFN plus NUC*
  - *HBsAg response superior in HBV genotypes A, B and D and similar in genotype C compared to that reported for IFN*
- Inarigivir well-tolerated at doses of 25mg – 200mg with no systemic interferon-like effects
  - *Inarigivir could be a safe, oral backbone immunomodulator for HBV combinatorial treatment*
- Identified heterogeneity of population for both HBeAg-positive and -negative patients
  - *Important for Phase 2b/3 clinical trial program design and patient stratification*

*Comparisons are not based on head-to-head studies and therefore conclusions should not be drawn about comparative effect
CATALYST Trials - Inarigivir Phase 2b Program Launched

- Inarigivir 400mg selected as optimal dose for CATALYST studies
- CATALYST 1 - Treatment-naïve patients dosed with inarigivir + NUC up to 48 weeks
  - Goal - superiority in HBsAg loss at 72 weeks* to that reported for Interferon + NUC
- CATALYST 2 - Treatment-experienced HBeAg-negative patients dosed for 48 weeks
  - Inarigivir added to NUC to induce effective replication termination from cccDNA
  - Potential for functional cure at 72 weeks*
- Patient stratification by baseline HBsAg levels to guide treatment
- Response-guided trial design - on-treatment biomarker profile for duration and when to stop for functional cure

*72 weeks = up to 48 weeks of treatment followed by 24-week follow-up period of monitoring post cessation of therapy
Inarigivir 400mg monotherapy & co-administration with Vemlidy® (tenofovir alafenamide) 25mg HBeAg –ve and +ve non-cirrhotic treatment naïve HBV patients

**Response-Guided Trial Design**

**12 weeks**
- IRIG 400mg monotherapy once daily (n=20)
- IRIG 400mg monotherapy 3x weekly (n=20)
- IRIG 400mg once daily co-administered with Vemlidy® 25mg once daily (n=20)

**12 weeks**
- IRIG 400mg once daily + Vemlidy® 25mg once daily
- IRIG 400mg 3x weekly + Vemlidy® 25mg once daily

**24 weeks**
- Response at 24 weeks: HBsAg >0.5log₁₀ decline & undetectable HBV DNA
- Responders
- Non-responders
- IRIG 400mg + Vemlidy® 25mg once daily
- Vemlidy® 25mg once daily

**Capability to observe functional cure**
- Key endpoints:
  - HBV DNA & RNA reductions,
  - HBeAg loss & HBsAg decline/loss

Together with data from Gilead’s trial of inarigivir + Vemlidy®, will inform Phase 3 treatment-naïve strategy for SB 9225 (IRIG + tenofovir disoproxil fumarate) fixed-dose combination
CATALYST 2 - Global Inarigivir HBV Phase 2b Trial

Inarigivir 400mg in virally suppressed –ve, non-cirrhotic chronic HBV patients

**Cohort 1 – “Stop & Shock”**

- 24 weeks
- IRIG 400mg monotherapy once daily
- "Shock" with inarigivir
- n=20
- Capability to observe functional cure

- Up to week 96
- No treatment – follow to observe sustained HBsAg loss

**Cohort 2 – “Suppress & Shock”**

- Continue NUC therapy
- IRIG 400mg monotherapy once daily added to NUC therapy
- n=40
- 24 – 48 weeks

- Up to week 96
- No treatment – follow to observe sustained HBsAg loss

Key endpoints:
- ALT Flare
- HBsAg loss
- fine needle aspirase (FNA)

Will inform Phase 3 program in virally-suppressed patients in 2020

Key endpoints:
- HBsAg loss/reduction +
- Intra-hepatic virology & Immunology with Liver FNA
Global HBV Clinical Collaboration With Gilead

Gilead Phase 2 HBV Study

Inarigivir co-administered with Vemlidy® (tenofovir alafenamide) 25 mg in naïve patients

- IRIG - 50 mg + Vemlidy®  
- IRIG - 200 mg + Vemlidy®  
- IRIG - 400 mg + Vemlidy®  
- Vemlidy® monotherapy

12 weeks

36 weeks

n=30  
n=30  
n=30  
n=10

Inarigivir monotherapy in virally suppressed patients

- IRIG - 100 mg

12 weeks

n=20

Patients remain on current oral antiviral therapy

Executed and Funded by Gilead
Inarigivir – part of the expanding Gilead HBV development program
SB 9225 – Novel Fixed-Dose Combination for Treatment-Naïve HBV Patients

- SB 9225 (inarigivir + tenofovir disoproxil fumarate)
- Planned Phase 3 program in US, EU and ASIA in 2020
- Trial Design: SB 9225 once-daily vs. NUC alone for 48 weeks
- Primary endpoints: Sustained HBV DNA negativity and/or durable HBsAg loss at week 72 (off treatment)
# Competitive / Collaborative Landscape for HBV Cure

<table>
<thead>
<tr>
<th><strong>NUCs</strong></th>
<th><strong>TLR-8 agonist (GS-9688)</strong></th>
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<tbody>
<tr>
<td>Gilead HBV clinical collaboration – multiple IRIG doses + a NUC in progress; data expected 2H 2019</td>
<td>Data expected 2H 2019</td>
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<tr>
<td>CATALYST trials launched in treatment-naïve and NUC suppressed patient populations</td>
<td>Potential complimentary immune activation to IRIG</td>
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<td>EU proposal for combination studies with IRIG submitted with INSERM France (PI: Fabien Zoulim)</td>
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<tr>
<th><strong>siRNA/Antisense</strong></th>
<th><strong>CpAMs/Capsid Inhibitors</strong></th>
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<tr>
<td>Multiple compounds with HBsAg reduction but, to date, universal rebound on stopping treatment</td>
<td>Multiple type 1 and 2 CpAMs in development</td>
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<tr>
<td>Evidence emerging for need to combine with immuno-modulator for sustained HBsAg reduction</td>
<td>No clinically meaningful effect reported on HBsAg at week 12 or 24</td>
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<tr>
<td>HBV antisense oligonucleotide in development at SBPH</td>
<td>MOA and potential for functional cure needs to be better elucidated</td>
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LEAD COMPOUND

SB 11285

A NOVEL SYNTHETIC

STING AGONIST
Spring Bank’s Second-Generation STING Agonist Platform

Differentiated cyclic dinucleotide

IV STING agonist differentiated from IT delivery of first-generation STING compounds

Observed to turn “cold” tumors “hot” in preclinical studies

Shown to be highly potent & efficacious across multiple preclinical cancer models with associated abscopal and tumor memory responses

Distinctive chemistry allows for potential nanoparticle formulation and conjugation with ADCs for targeted delivery

Unique chemistry allows for “self assembly” could enhance immune cell recruitment via IV administration

ADC, antibody-drug conjugates; IV, intravenous; IT, intratumoral; STING, STimulator of INterferon Genes.
SB 11285 Significantly Inhibited Tumor Growth in Relevant Oncology Models

Efficacy in relevant oncology animal models observed with intravenous (IV), intraperitoneal (IP) and intratumoral (IT) delivery

CT26 Colon Cancer (IV)

B16 Melanoma (IV)

4T1 Metastatic Breast Cancer (IP)

Vehicle

SB 11285
SB 11285 Development Plan

• FDA IND submission Q2 2019

• Phase 1/2 IV SB 11285 studies as monotherapy with early transition to combination therapy in locally invasive and metastatic solid tumors
  – Includes patients with PD-1/PDL-1 failure

• IT SB 11285 study in Hepatocellular Carcinoma (HCC)/solid tumors
Multiple Catalysts for Spring Bank in 2019

SBPH Q1 2019 cash position of $57M – company funded into Q2 2021

Key Milestones & Catalysts Anticipated for 2019

1H 2019
- Initiated inarigivir 400mg liver biopsy study launched
- Reported 12 and 24 week dosing from the final cohort (200mg) of the ACHIEVE trial
- Launched global inarigivir CATALYST 1 and 2 trials
- Submit IND for SB 11285 IV

2H 2019
- Report initial data from first inarigivir + NUC combination cohorts (Gilead data)
- Initiate Phase 1/2 clinical trial with SB 11285 IV
- Report initial data from inarigivir 400mg liver biopsy study
- Advance lead HBV antisense oligonucleotide compound into *in vivo* POC studies
- Multiple inarigivir data presentations anticipated at AASLD in November
- Initiate SB 9225 Bioequivalence study in preparation for potential Ph 3 program in 2020
**Spring Bank Pharmaceuticals, Inc.**

**A Focus on Simplicity, Safety, and Selectivity**

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**Unique in-house platform**  
Focused on small molecule nucleotide hybrid immunomodulatory molecules

**World class expertise in HBV**  
Deep clinical collaboration in HBV with Gilead

**Orally administered inarigivir**  
Has clinically shown potent antiviral activity in HBV

**Favorable safety profile to date**  
With no related SAEs observed

**SB 9225**  
(inarigivir + TDF)  
Simplifies combination therapy

**Next-generation STING agonist program**  
Lead candidate SB 11285 anticipated to enter clinic in multiple cancers in 2019

**Anticipate multiple data points for potential valuation enhancements**  
in the next 6 – 15 months