

STUDY PROTOCOL

Protocol ID: SB Flavon Official

Title: Therapeutic efficacy of SB Flavon in the treatment of advanced (F3-F4) HBV-related cirrhosis and hepatocellular carcinoma

NCT Number: NCT007084948

Sponsor: Trieu, Nguyen Thi, M.D.

Regulatory Authority: U.S. Food and Drug Administration (FDA)

FDA Center: Center for Drug Evaluation and Research (CDER)

IND Number: 219896

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1. Introduction & Background

Chronic hepatitis B virus (HBV) infection remains a primary driver of advanced liver disease, progressing to F3-F4 cirrhosis and hepatocellular carcinoma (HCC). Traditional antiviral therapies suppress viral replication but offer limited biological reversal of established cirrhotic tissue.

This clinical study evaluates **SB Flavonoids**, a multi-target therapeutic composition engineered for the comprehensive management of Hepatitis (Acute and Chronic), Advanced Cirrhosis (F3)-(F4), and Early-stage Hepatocellular Carcinoma (HCC). **The trial is primarily conducted in Vietnam**, targeting the specific clinical challenges of HBV-related advanced liver diseases in the Vietnamese patient population. The investigational formulation features a synergistic complex of **Acid ascorbic, L-Arginine hydrochloride, Urinariaflavone, 5,6-dihydroxy-7,8,4'-trimethoxy-flavone, Quercetin, Rutin, and Kaempferol**. This specialized composition provides direct hepatoprotective, antifibrotic, and oncogenic suppressive pathways to reverse advanced (F3-F4) fibrosis and limit early-stage HCC progression.

2. Product Mechanism of Action

The therapeutic efficacy of SB Flavonoids is driven by four primary biological mechanisms:

Structural Regeneration and Fibrosis Reversal: Selected flavonoids target the restoration of liver parenchyma by neutralizing toxic proteins produced during prolonged chronic inflammation. By blocking and removing denatured proteins, the composition facilitates the remodeling of fibrotic structures and the removal of scar tissue. Ascorbic Acid and L-Arginine act as essential catalysts, enhancing cell adhesion and synergizing with flavonoids to accelerate the regeneration of healthy liver cells.

Immune Modulation and Endothelial Stability: This preparation serves as a critical supplement to stabilize the endothelium and maintain cortisol levels within physiological

limits. A key breakthrough in this formulation is its ability to stimulate the production and optimize the response of B lymphocytes, strengthening the body's adaptive immune system. Furthermore, the composition is designed to stimulate the release of growth hormones, fostering an internal environment conducive to cellular repair.

Oncogenic Suppression and Clinical Significance: Validated by **8 years of longitudinal follow-up data**, the precise ratios of these pharmaceutical ingredients are calculated to maximize their therapeutic impact in preventing and treating acute/chronic hepatitis and advanced cirrhosis. Crucially, the composition effectively arrests the progression to Hepatocellular Carcinoma (HCC) and significantly reduces the risk of post-treatment recurrence.

3. Study Objectives

Primary Objective: To evaluate the therapeutic efficacy of SB Flavonoids combined with Tenofovir compared to Tenofovir monotherapy in suppressing HBV replication and achieving biological/structural reversal of advanced liver cirrhosis (F3-F4) and HCC within the Vietnamese cohort based on long-term longitudinal observation.

Secondary Objectives: To evaluate improvements in hepatic synthetic functions (Albumin and INR trajectories), changes in liver stiffness, long-term safety, tolerance profiles, and immune/endothelial markers between the two parallel groups over the study period.

4. Study Design & Timeline

Study Type: Interventional (Clinical Trial).

Primary Purpose: Supportive Care.

Study Phase: Phase 4.

Interventional Study Model: Parallel Assignment.

Number of Arms: 2.

Allocation: Randomized.

Masking: Single (Participant).

Enrollment: 134 (Actual).

Overall Recruitment Status: Completed.

Study Start Date: November 30, 2015 (Actual).

Primary Completion Date: October 10, 2025 (Actual).

Study Completion Date: April 20, 2026 (Actual).

5. Regulatory Compliance & Ethics

FDA Regulation: Conducted under U.S. FDA Investigational New Drug (IND) application number 219896 (CDER).

Expanded Access: Associated with the Expanded Access record NCT01198860.

Human Subjects Protection: Board Status: Exempt.

Data Oversight: Supervised by an independent Data Monitoring Committee (DMC).

6. Eligibility Criteria

Age Limits: Minimum Age: 18 Years; Maximum Age: 80 Years.

Sex: All.

Gender Based: No.

Accepts Healthy Volunteers: No.

Inclusion Criteria:

- All patients with underlying medical conditions who have been taking medications for these conditions.
- Patients with AIDS, HIV, HBV, HCV, and patients with co-infections.
- The cancer patients are stable.
- Patients with congenital or acquired immunodeficiency.

Exclusion Criteria:

- Unstable cancer patients.
- Decompensated cirrhosis.

7. Arms and Assigned Interventions

Arm 1: Experimental: Tenofovir 300mg + SB Flavon.

Enhanced resistance to Hepatitis B Virus was demonstrated across all patient subgroups—including those with cirrhosis and HCC—following the administration of a Tenofovir and SB Flavon regimen.

- Assigned Intervention 1 (Drug: Flavonoid): The daily maintenance, Tenofovir 150mg + SB Flavon 1345mg dose is to be taken 2 times a day, 1 tablet each time to protect liver cell membranes and prevent the growth of HBV. Other Name: Tenofovir + SB Flavon.

- Assigned Intervention 2 (Drug: Tenofovir): The daily maintenance, Tenofovir 300mg dose is to be taken 1 time a day, 1 tablet each time. Other Name: Tenofovir.

Arm 2: Experimental: Tenofovir 300 mg.

While Tenofovir monotherapy provided baseline experimental benefits in HBV resistance, the integration of SB Flavon resulted in superior clinical outcomes.

*Assigned Intervention (Drug: Tenofovir): The daily maintenance, Tenofovir 300mg dose is to be taken 1 time a day, 1 tablet each time. Other Name: Tenofovir.

8. Outcome Measures

Primary Outcome Measures:

1. Reduction in Liver Stiffness Measurement (LSM) as an Indicator of Fibrosis: Evaluation of hepatic fibrosis regression using Transient Elastography (Fibroscan) from advanced cirrhosis (Stage F3-F4, >12.5 kPa) to lower fibrosis stages (F2 or F1).

Time Frame: Baseline, Year 1, Year 2, and Year 3.

2. Incidence of Hepatocellular Carcinoma (HCC) Development: The rate of participants progressing to HCC will be monitored via serum Alpha-Fetoprotein (AFP) levels and periodic diagnostic imaging every six months (Ultrasound/CT/MRI).

Time Frame: Every 6 months up to 3 years.

Secondary Outcome Measures:

3. Improvement in Hepatic Synthetic Function via Serum Albumin Levels: Assessment of protein synthesis capacity (Unit of Measure: g/L).

* Time Frame: Every 6 months up to 3 years.

4. Improvement in Hepatic Synthetic Function via INR: Assessment of coagulation factor synthesis capacity (Unit of Measure: Ratio or Unitless).

* Time Frame: Every 6 months up to 3 years.

5. Change in Liver Stiffness Measurement via Transient Elastography: Continuous monitoring of liver tissue stiffness (Unit of Measure: kilopascals (kPa)).

* Time Frame: Every 6 months up to 3 years.

9. Administrative Structure & Study Locations

Study Officials: Nguyen Thi Trieu, MD (Study Director / Principal Investigator).

Primary Clinical Facility Location: SAIGON BIOPHARMA COMPANY LIMITED – Ho Chi Minh City, Vietnam.

Collaborating Location: Saigon Biopharma LLC – Wilmington, Delaware, United States.

Data Protection & Privacy Policy: Individual personal identifiers, including clinical staff personal telephone lines and individual email vectors, are strictly redacted within public-facing core summary documentation to conform with institutional data-masking security protocols and international trial presentation standards.

10. Individual Participant Data (IPD) Sharing Statement

Plan to Share IPD: De-identified individual participant data underlying the primary and secondary outcomes of this trial will be handled according to the protocol design constraints. Requests for scientific data review must be formally validated through the institutional channels of the study sponsor and primary centers.