SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16 OF
THE SECURITIES EXCHANGE ACT OF 1934

For the month of April 2013

_____

BioLineRx Ltd.

(Translation of Registrant's name into English)

_____

P.O. Box 45158
19 Hartum Street
Jerusalem 9777518 Israel
(Address of Principal Executive Offices)

_____

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F:

Form 20-F ☑ Form 40-F o

Indicate by check mark whether the registrant by furnishing the information contained in this form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934:

Yes o No ☑

Attached as Exhibit 1 is a new corporate presentation, an abridged version of which will be presented by Registrant’s management at the Needham Healthcare Conference in New York later today.

This Form 6-K, including all exhibits hereto, is hereby incorporated by reference into all effective registration statements filed by the Company under the Securities Act of 1933.

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BioLineRx Ltd.

By: /s/ Philip Serlin
Philip Serlin
Chief Financial and Operating Officer

Dated: April 30, 2013

BIOLINERX

Company Presentation

April/May 2013

Forward Looking Statements

This presentation contains "forward-looking statements." These statements include words like "may," "expects," "believes," “plans,” “scheduled," and "intends," and describe opinions about future events. These forward-looking statements involve known and unknown risks and uncertainties that may cause the actual results, performance or achievements of BioLineRx to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements.

BioLineRx Highlights

- 7 clinical stage assets in variety of indications, 2 in advanced clinical stages
- Broad pre-clinical pipeline - providing multiple opportunities for next generation clinical projects
- Special strategic relationships and access to Israeli technology
- Strong balance sheet - $28 million cash as of March 31, 2013
- Several meaningful value inflection points in 2013 and 2014

BIOLINERX

NASDAQ

TEL-AVIV STOCK EXCHANGE



OVERVIEW AND BUSINESS MODEL

Our Business Model

- Strong scientific basis
- High chance of regulatory approval
- Competitive advantage
- Strong IP

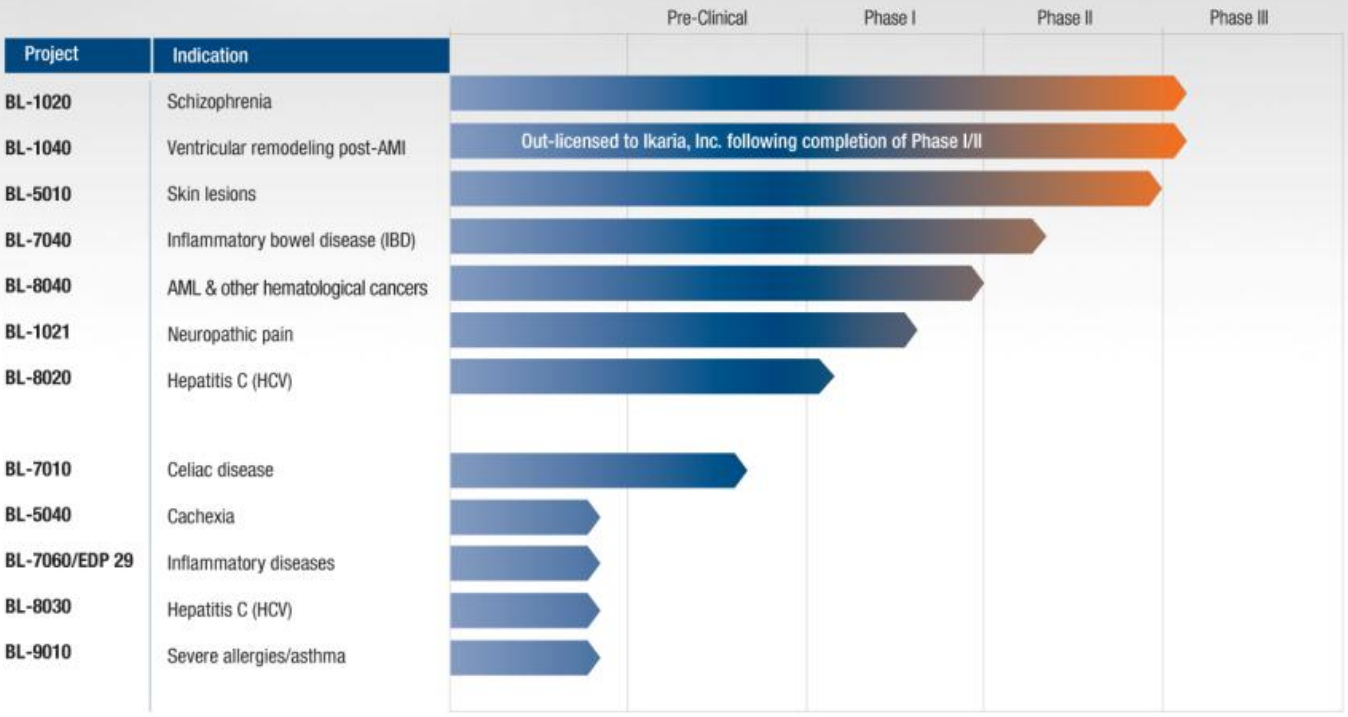
- Validate results of inventors
- Resolve main concerns regarding toxicity, CMC, etc.

- Accelerated development program
- FDA/EMA standards

- Continued clinical development
- Regulatory approval
- Commercialization

Our Project Infrastructure Support

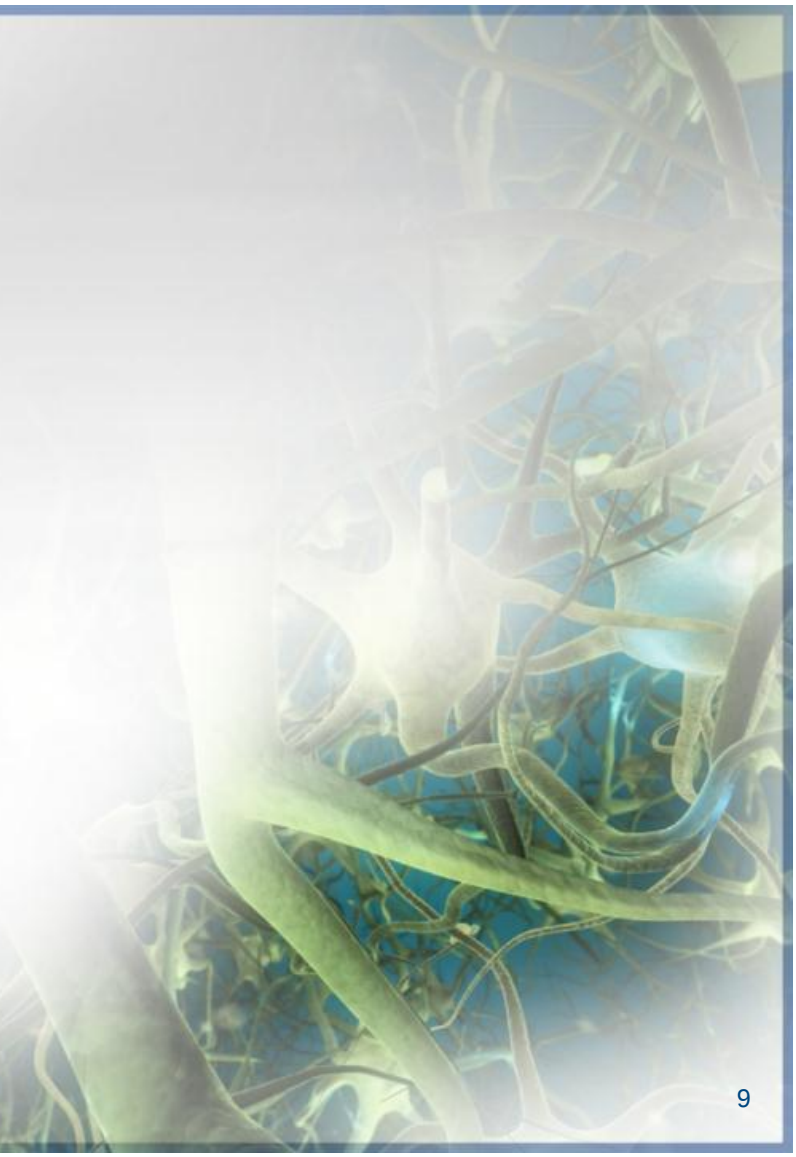
Current Pipeline





SELECTED PROGRAMS

BL-1020:
FIRST-IN-CLASS GABA-ENHANCED ANTI-PSYCHOTIC FOR SCHIZOPHRENIA



BL-1020 - Status Update and Next Steps

- **Phase II/III CLARITY study interim analysis results were announced on March 20**
  - Primary and secondary cognition endpoints would not be reached with any reasonable number of patients in CLARITY study
  - Several statistical parameters specified in the statistical analysis plan (SAP) indicated positive trends (e.g., social cognition, consistent timing)
- **Currently in process of discontinuing CLARITY study**
  - Data-cleaning process should be completed by end of May
- **Waiting to receive full analysis of un-blinded study data on all study patients**
  - Full analysis should be finalized in the next few months
  - At that point Company will make final decision about future of project

BL-1040:
FIRST-IN-CLASS MYOCARDIAL IMPLANT FOR PREVENTION OF VENTRICULAR REMODELING FOLLOWING AMI

Out-licensed to Ikaria Inc. and being developed as Bioabsorbable Cardiac Matrix (BCM)

BL-1040 Highlights

- **Indication:** Cardiac remodeling post-AMI
- **Mode of Action**: Provides support to ischemic tissue during healing
- **Status:** CE Mark registration trial - conducted by Ikaria Inc.
- **Product highlights:**
  - Resorbable polymer solution administered via intracoronary injection during standard vessel reopening procedures
  - Deposits in ischemic tissue and forms a “scaffold” that supports the injured tissue during recovery
  - Regulated as a device
- **Market Opportunity:** > Billion dollar market*

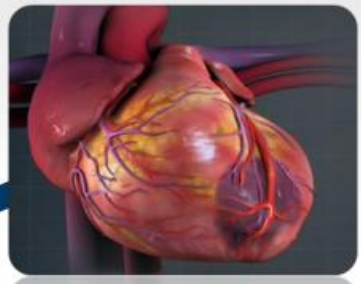
*Based on a customized survey and report prepared for BioLineRx by Defined Health

Current Treatment Methodologies and Unmet Medical Need

Vessel occlusion

Successfully treated with PCI and stents

Tissue damage



No sufficiently effective treatment for myocardial damage

How Does BL-1040 Work?

Infarct related artery (intra-vascular) injection

Deposition into infarcted tissue

Liquid to gel phase transition upon contact with infarcted tissue

Phase transition at infarct area creates resorbable bioprosthetic scaffold providing mechanical support to damaged cardiac muscle

Resorption occurs within 6 weeks;
dissolved BL-1040 excreted through the kidneys

BL-1040 Prevents Structural Changes Following AMI

Porcine AMI model, day 60

Dilated left ventricle

Thin LV wall

Untreated

BL-1040

Normal size left ventricle

Normal LV wall

BL-1040 Safe and Well-Tolerated in Phase I/II Clinical Trial Results

- **Clinical program based on extensive interaction with FDA (CDRH division)**
- **Pilot study in Europe - completed January 2010**
  - 27 patients, safety and preliminary efficacy in patients with primary MI at high risk for LV remodeling
    - 9 sites: 6 in Germany, 3 in Belgium
- **Trial results show**
  - No treatment related complications, arrhythmias, elevations in cardiac enzymes or occlusions
  - Independent Safety Monitoring Board determined BL-1040 is safe and that continued clinical development appropriate

Ikaria BL-1040 Out-Licensing Transaction

- **Ikaria - proven expertise in drug and medical device development and singular focus on acute care**
- **Terms:**
  - √ $7 million upfront
  - √ $10 million first milestone
  - – ~$115 million in additional regulatory and developmental milestones
  - – ~$150 million in commercial milestones
  - – 11-15% sales royalties
  - – Territories: Worldwide

IKARIA®
ADVANCING CRITICAL CARE

BL-1040 Clinical Development Program

- **Current development program includes two pivotal trials**
  - CE Mark Registration trial for European approval
  - Second pivotal trial for US approval
- **Pivotal CE Mark Registration trial currently progressing at full steam**
  - Multiple sites currently active in six countries (US, Australia, Canada, Belgium, Israel and Spain)
  - Overall design:
    - Placebo controlled
    - 306 patients
    - Six-month follow-up
  - Endpoints:
    - Left ventricular end diastolic volume
    - Anatomic measurement of left ventricular end diastolic volume (echocardiogram)
    - Quality of Life questionnaire
    - Six-minute walk test

BL-1040 Clinical Development Program (cont.)

- **Second pivotal trial for US approval in planning stages**
  - Final discussions with FDA
  - Overall design:
    - Placebo controlled
    - >1,000 patients
    - 12 month follow-up

BL-5010: A NOVEL FORMULATION FOR NON-SURGICAL REMOVAL OF SKIN LESIONS, EMBEDDED WITHIN NEW APPLICATOR PEN (BL-5010P) - FOR TOPICAL USE

BL-5010 Highlights

- **Positioning: Novel formulation for non surgical removal of variety of skin lesions**
- **Status: Pilot study completed in benign lesions (60 pts)**
- **Product Highlights:**
  - Single application office-based treatment
    - State-of-the-art applicator developed for streamlined application
  - Pilot study completed successfully
    - 96.7% complete lesion removal
    - 94% reported good to excellent cosmetic outcomes
  - Medical device classification in EU
  - Short time to market

Treatment Profile Comparison

	BL-5010	Cryotherapy	Laser	Electro-Desiccation	Surgery	PDT
Speed of treatment	Quick	Very Quick	Medium	Slow	Slow	Slow
Efficacy	Very high	High	High	Very high	Very High	High
Pain	Minimal	Moderately Painful	Mod. Painful	Mod. Painful	Painful	Yes
Scarring	Minimal	Hypopigmentation	None	Some	Significant	None
Application in sensitive areas	Yes	No	Yes	No	Yes	Yes
Applicable for large lesions	Discrete lesions	No	No	No	Yes	Yes
Histology compatible	Yes	No	No	No	Yes	No
Set-up time	Quick	Quick	Significant	Lengthy	Lengthy	Lengthy
Cost	Low	Very Low	High	Medium	Medium	High

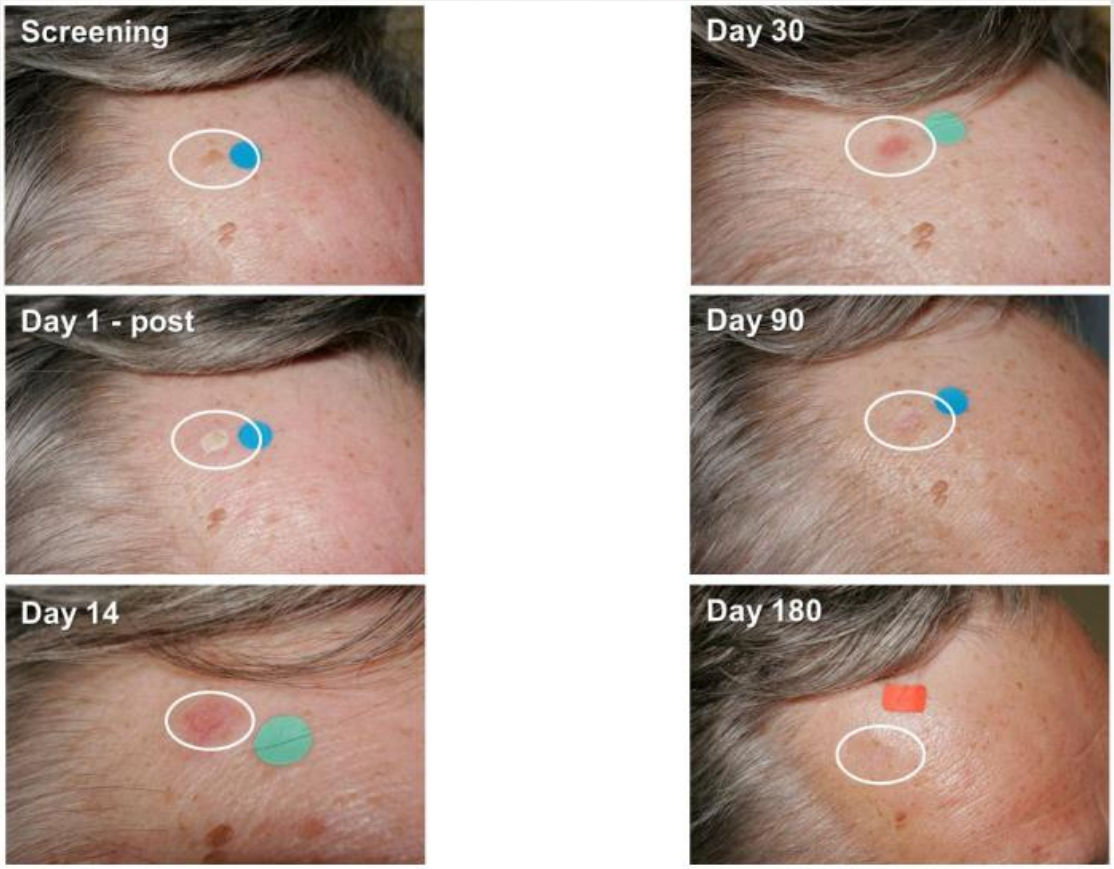
BL-5010 Phase I/II Clinical Trial Overview

- **Open-label, single-arm, safety and efficacy study**
- **60 patients with seborrheic keratosis investigated for BL-5010 single application safety and efficacy**
- **Patients treated and followed-up for 6 months**
- **Conducted in Germany and Holland**
- **Endpoints:**
  - Safety, efficacy (complete removal of lesion), cosmetic outcome
  - Feasibility of histological analysis

BL-5010 Phase I/II Clinical Trial Results

- **Safety**
  - BL-5010 has a good safety profile - no persistent irreversible adverse effects were observed at treated site
- **Efficacy**
  - Lesion removal - lesions fell off by Day 30 in >96% of patients
  - Cosmetic outcome
    - 94.6% of investigator-assessed cosmetic outcomes and 84% of patient-assessed cosmetic outcomes were good or excellent 180 days following treatment
  - Demonstrated feasibility for BL-5010's ability to preserve lesion structure for subsequent histological diagnosis

Representative Before and After Pictures



BL-5010P - A Novel Applicator Pen for Topical Use

- Distribution accuracy on target tissue
- Volume consistency
- Single patient use with potential to treat multiple lesions
- Allows application of pressure
- Ready for use
- Easy to use
- Hand-held device
- Aesthetic and ergonomic design
- Straightforward and low cost manufacturing
- Patentability of the applicator
- Disposable

BL-5010: Summary and Current Status

- **BL-5010 designated as a medical device in Europe**
- **Pilot safety and efficacy study successfully completed in seborrheic keratosis patients**
- **Pivotal CE Mark Registration study to commence in H213**
  - Bridging study of BL-5010 pen-like applicator in seborrheic keratosis
  - Pivotal study results are expected mid-2014
- **Additional clinical study to commence in Q114**
  - Clinical trial using BL-5010 pen-like applicator in actinic keratosis
  - Study results are expected late 2014 / early 2015

BL-7040: ORALLY AVAILABLE TLR-9 AGONIST FOR TREATMENT OF INFLAMMATORY BOWEL DISEASE

BL-7040 Highlights

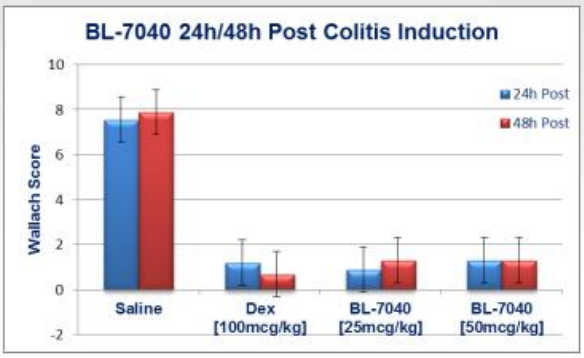
- **Indication**: Inflammatory bowel disease (IBD)
- **Mode of Action**: Toll-Like Receptor 9 (TLR-9) modulator/agonist
- **Status**: Phase IIa proof-of-concept study completed
- **Product Highlights**:
  - Orally available synthetic oligodeoxynucleotide (2nd generation)
  - Oligo sequence was chemically modified (2'OMe) to increase stability
  - Efficacy demonstrated in animal models of IBD - comparable to dexamethasone
  - Efficacy, safety and tolerability demonstrated in clinical trials
- **Market opportunity**: **~**$8 billion in 2012 *(Datamonitor)*

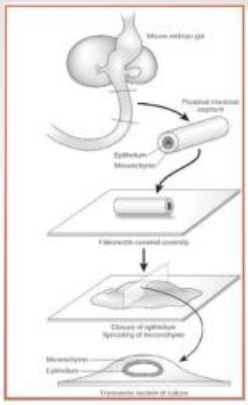
IBD Overview

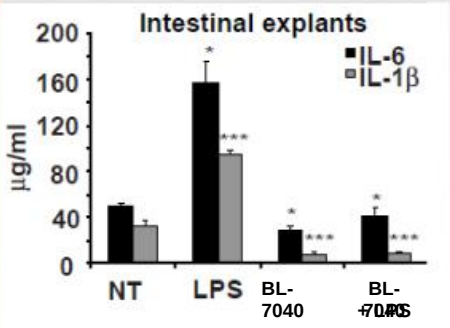
- **A group of inflammatory conditions of the colon and small intestine**
- **Two major types:**
  - Ulcerative colitis (UC): limited to the colon
  - Crohn's disease (CD): involves multiple segments of the gastrointestinal tract
- **Common end pathway for both types consists of inflammation of the intestinal tract mucosal lining**
- **Causes ulceration, edema, bleeding, fluid and electrolyte loss**
- **~2.6 million people affected by IBD (1.7M UC; 0.9M Crohn's) across seven major markets in 2011 (*Datamonitor*)**
  - Expected to reach 2.9 million by 2019

BL-7040 Pre-Clinical Efficacy Data

BL-7040 is as Effective as Dexamethasone in Treating Established IBD







- BL-7040 significantly reduced colitis severity in levels comparable to Dexamethasone *in -vivo*
- BL-7040 reduced LPS induced cytokine secretion in intestinal explants

Study design:

1.Colitis induced in Balb/c mice using TNBS

2.Mice were administered BL-7040 orally for 7 days, starting 24h or 48h post colitis induction

3.Disease severity and anti-inflammatory effects were assessed using the Wallach score and IL secretion profile

Response Rates in Representative Studies of Moderate to Severe UC

Budesonide MMX (corticosteroid)/Mesalamine (5-ASA) - oral

- Clinical response (8-week treatment): 25% (placebo) versus ~33%% study drug
- Mucosal Healing (8-week treatment): 33% (placebo) versus ~40% study drug

Adalimumab (Humira)* - subcutaneously anti-TNF

- Clinical response (8-week treatment): 35% (placebo) versus 50% study drug
- Mucosal Healing (8-week treatment): 32% (placebo) versus 41% study drug

Golimumab (Simponi) - subcutaneously anti-TNF

- Clinical response (6-week treatment): 30% (placebo) versus 52% study drug
- Mucosal Healing (6-week treatment): 29% (placebo) versus 43% study drug

Infliximab (Remicade) - intravenously anti-TNF

- Clinical response (8-week treatment): 29-37% (placebo) versus 64-69% study drug
- Mucosal Healing (8-week treatment): 30-34% (placebo) versus 60-62% study drug

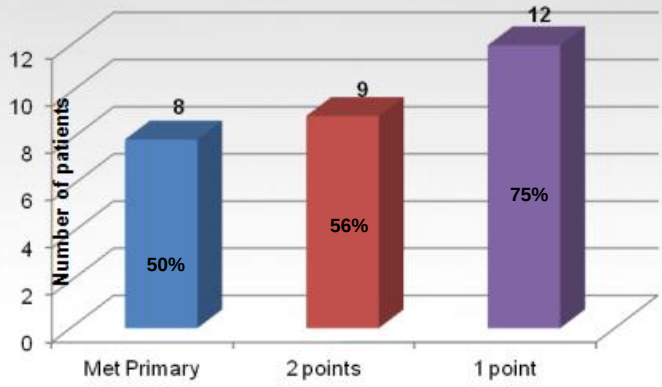
* In open-label Phase IIa trial of 20 UC patients, study drug showed clinical response rate of ~25%

BL-7040 Phase IIa Study Design

- **General**
  - Open-label study to evaluate efficacy, pharmacodynamics, safety and tolerability
  - Up to 30 patients with moderately active ulcerative colitis
- **Recruitment and Treatment**
  - 22 patients enrolled in the study
  - 6 patients discontinued and were not included in the statistical analysis.
  - Statistical analysis was performed on the 16 patients that completed 5 weeks of treatment (last day of treatment measurements were compared to baseline)

Main Endpoints of Study

Primary Endpoint - Mayo Score (end of treatment)

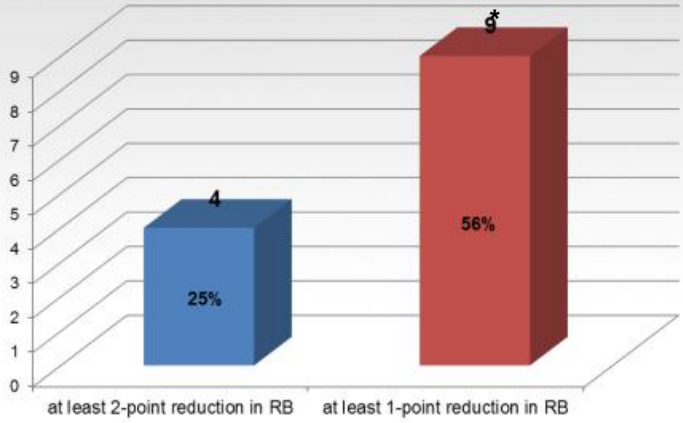


Met Primary - *at least a 3-point decrease and 30% reduction from baseline in Mayo score, plus a ≥ 1-point decrease in rectal bleeding sub-score or an absolute rectal bleeding sub-score of ≤ 1*

2-point reduction - *at least a 2-point decrease from baseline in Mayo score*

1-point reduction - *at least a 1-point decrease from baseline in Mayo score*

Change in Rectal Bleeding (RB) from Baseline

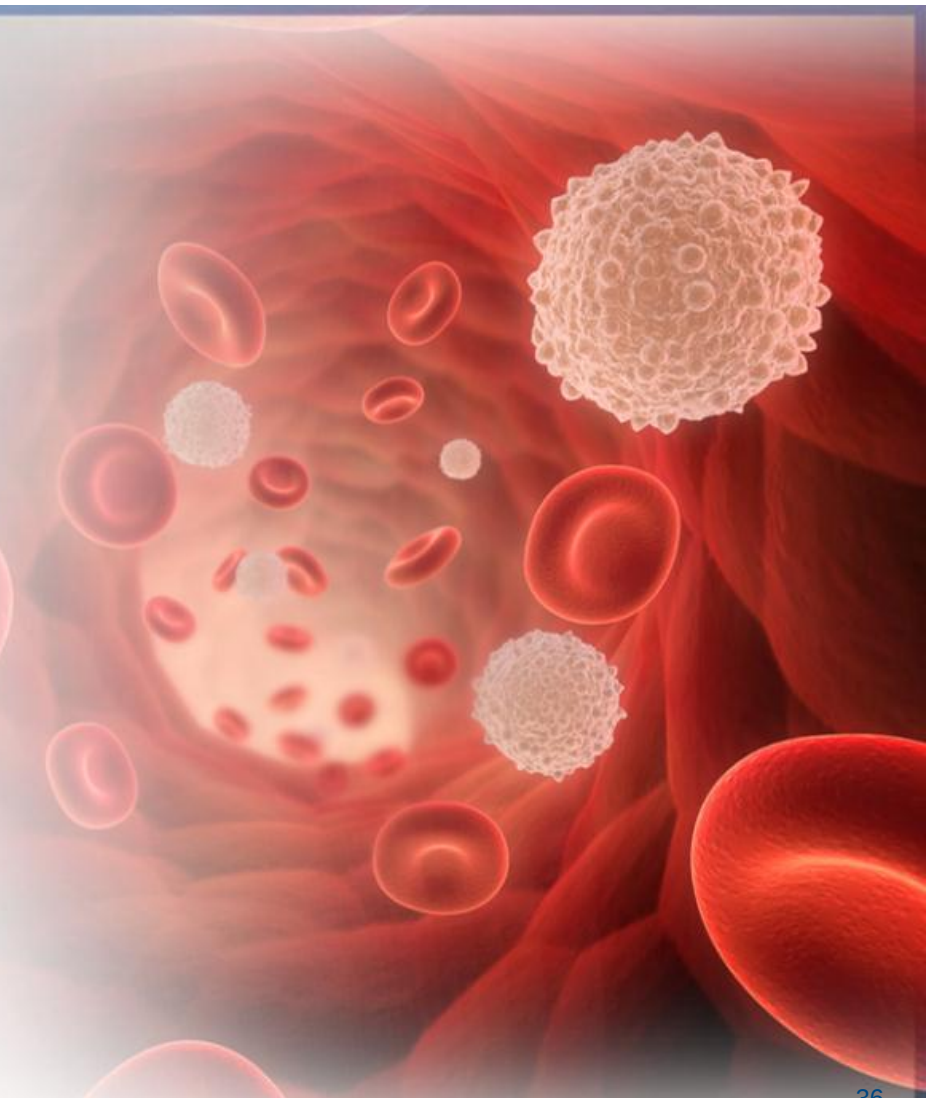


**** Note*** *- 6 of these 9 patients (67%) demonstrated complete remission in rectal bleeding*

Summary of BL-7040 Phase IIa Results

- **Efficacy**
  - Primary clinical endpoint in study - reduction in Mayo score between baseline and completion of treatment - was achieved.
    - 50% of patients (8 patients) met primary endpoint; remaining 8 patients demonstrated stable clinical condition or minor improvement.
    - 56% of patients (9 patients) demonstrated decreases of at least 1 point in the rectal-bleeding sub-score; 69% (11 patients) had rectal-bleeding sub-scores of ≤1
    - In 6 of the 11 patients, no rectal bleeding was seen at all
  - 50% of patients completing study treatment also met certain secondary endpoints, such as partial Mayo score reduction and mucosal healing
- **Safety**
  - BL-7040 was highly safe and well tolerated by the study participants

BL-8040:
BEST-IN-CLASS CXCR4 ANTAGONIST FOR TREATMENT OF HEMATOLOGICAL CANCERS

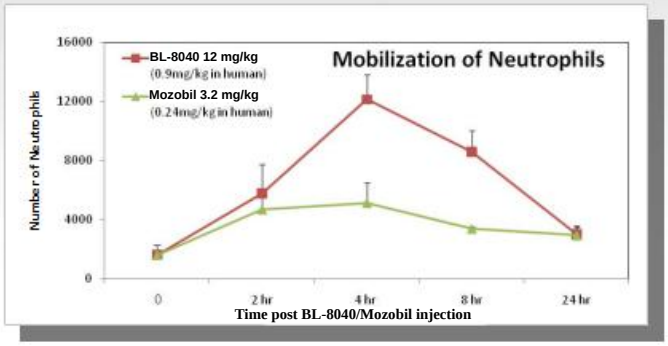


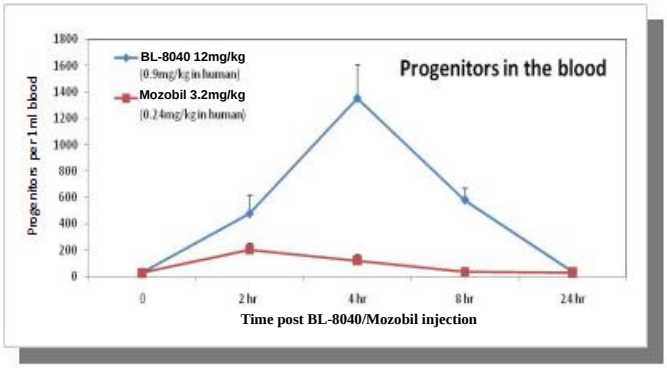
BL-8040 Highlights

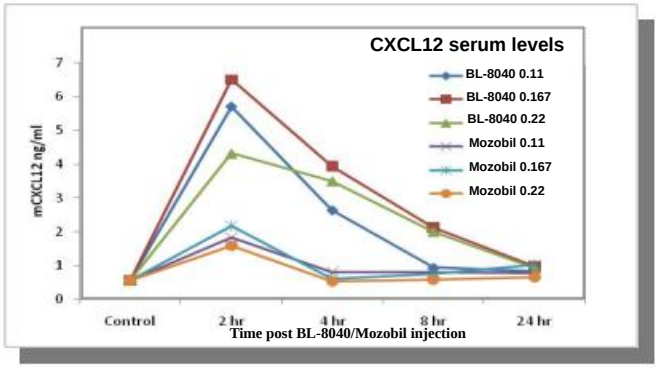
- **Indications:** AML & other hematological cancers
- **Mode of Action:** CXCR4 antagonism
  - CXCR4 over-expressed in >70% of tumors, and correlates with disease severity.
- **Status:** Phase II development
- **Product Highlights:**
  - Peptide
  - Activity against various cancer types has been demonstrated in broad range of *in vitro* and *in vivo* studies
    - Induction of apoptosis in cancer cells
    - Sensitization of cancer cells to chemo- and bio-based anti-cancer therapy
    - Mobilization of stem cells from bone marrow
  - Safety profile and mobilization activity demonstrated in Phase I/II study in myeloma patients

BL-8040 Mobilization Compared with Mozobil

- BL-8040 affords superior mobilization of neutrophils and progenitor cells
- Mobilization superiority correlates with CXCL12 levels in the blood

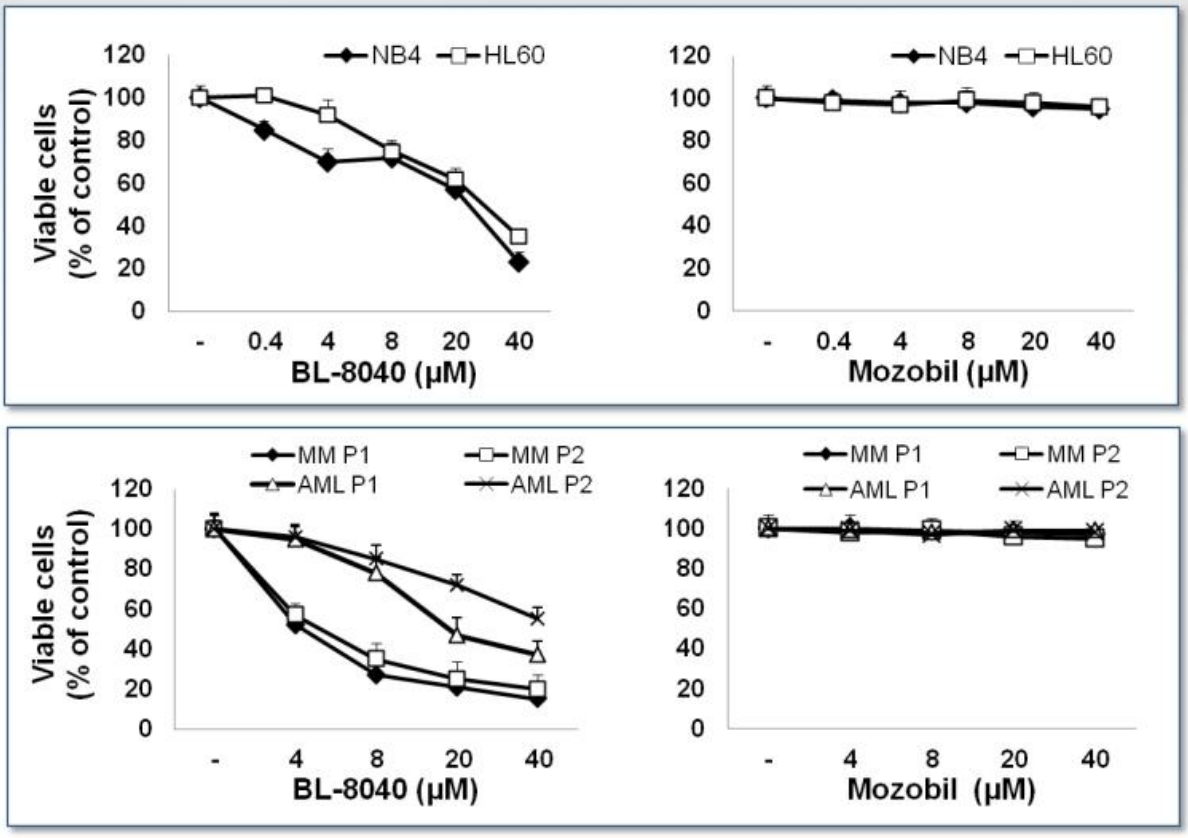




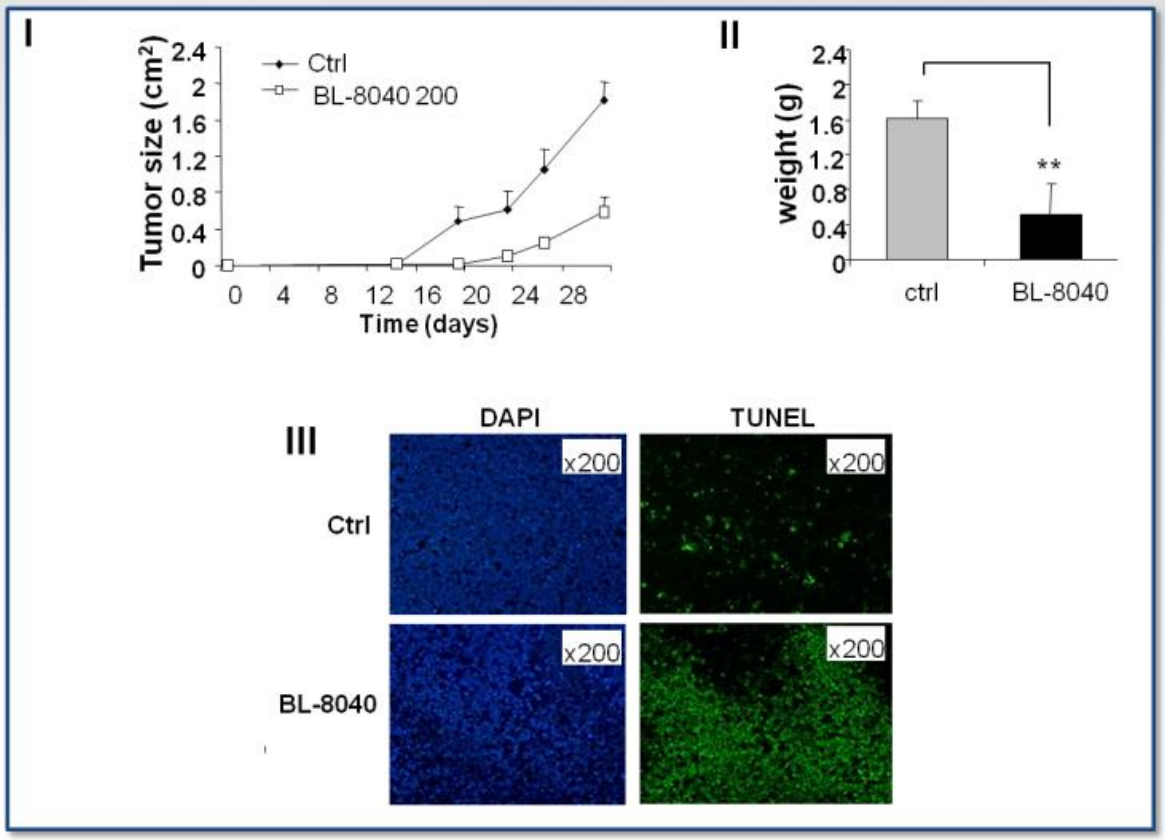


BL-8040 Anti-Cancer Activity Compared with Mozobil

- BL-8040, in contrast to Mozobil, exerts potent cytotoxicity against human leukemia and myeloma cells in-vitro in a dose-dependent manner



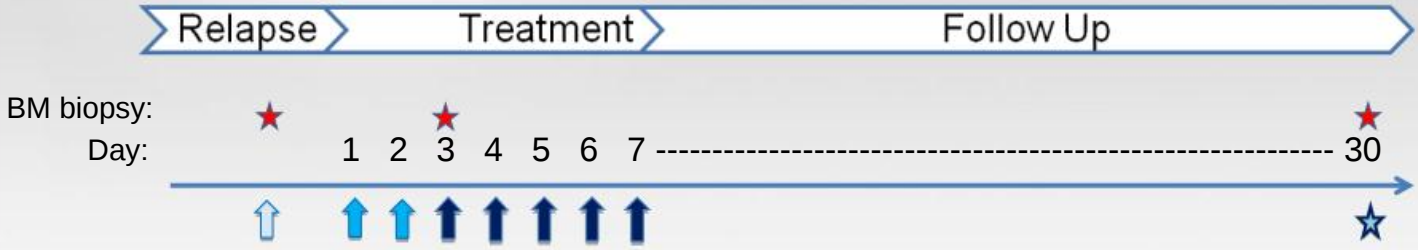
BL-8040 Inhibits Tumor Growth in Mouse Xenograft Leukemia (NB4) Model



Upcoming BL-8040 Phase II Study in AML

- **Study summary**
  - Multicenter, open-label study, carried out at multiple centers in US and Israel
  - Adult subjects (aged 18-70) with relapsed or refractory AML
- **Study design**
  - Up to 50 patients
  - Dose escalation phase - up to 5 escalating doses (0.5-1.5 mg/kg)
  - Expansion phase of safe, efficacious dose group
- **Treatment protocol**
  - 2 days of BL-8040 mono-therapy
  - 5 days of BL-8040 + Cytarabine 1.5-3g/m^2 (ARA-C)
- **Endpoints**
  - Safety and tolerability
  - Efficacy
    - Rate and magnitude of response
    - Proportion of AML blasts in peripheral blood and bone marrow
    - Leukemic cell apoptosis in peripheral blood and bone marrow

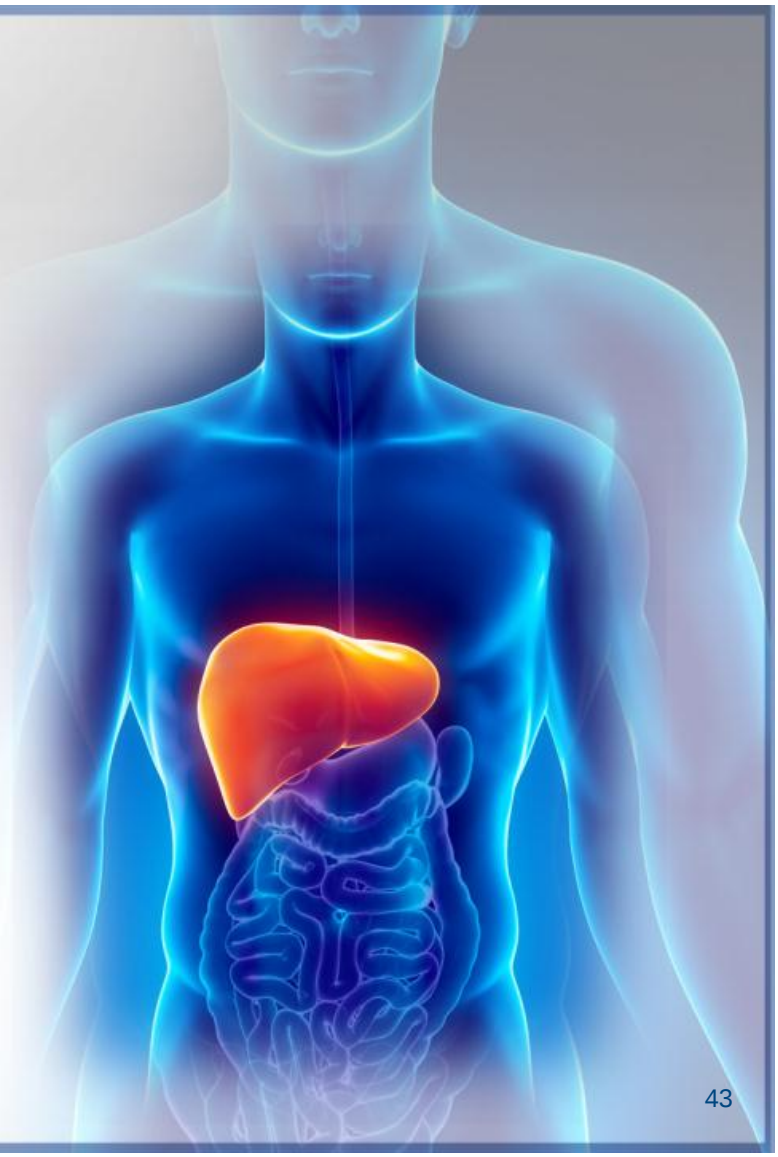
BL-8040 AML Study Design



- Screening
- BL-8040
- BL-8040 + Chemotherapy
- Evaluation of response
- BM biopsy

- **Study expected to initiate in Q2 2013**
  - Regulatory approval in US already received
- **Partial safety, tolerability and efficacy results expected by end of 2013**
- **Full results expected in 2014**

BL-8020: ORAL, SYNERGISTIC TREATMENT FOR HCV



BL-8020 Highlights

- **Mode of Action: Inhibition of HCV-induced autophagy**
- **Status: Phase I/II**
- **Product highlights:**
  - Unique mechanism of action - inhibition of HCV-induced autophagy, a process essential for viral replication
  - Has demonstrated synergy with various other anti-HCV agents of different types
  - Targets host and is therefore pan-genotypic
  - Notable safety and efficacy - combination of HCQ & RBV; therefore, long-term safety has already been demonstrated in humans
  - Estimated market positioning - will potentially replace RBV, both in current regimens and in future anti-HCV treatments

Pre-Clinical Data

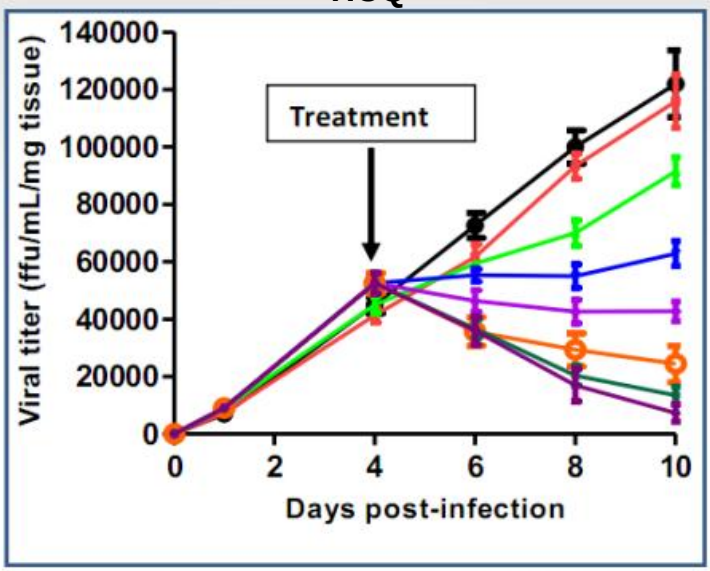
- **In-vitro studies demonstrated synergistic effect with a number of HCV therapies**

- **Ex-vivo analysis**
  - Uninfected human liver slices were infected with HCV and cultured up to 10 days
  - At day 4 post-infection, liver slices were treated for 6 days with HCQ at different concentrations, with and without RBV
  - Antiviral activity of HCQ showed time and dose-dependent inhibitory effects on HCV replication

Ex-Vivo Results

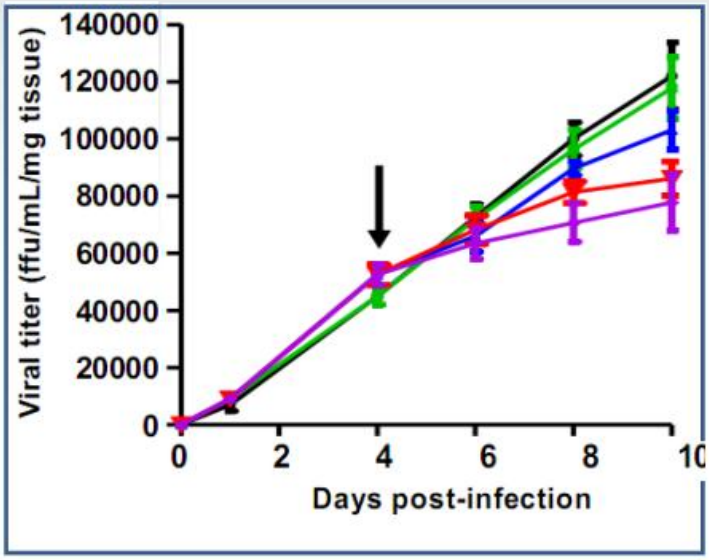
The antiviral activity of HCQ showed time and dose-dependent inhibitory effects on HCV replication

HCQ



Con1 CTRL untreated
HCQ 0.01μM
HCQ 0.1μM
HCQ 1μM
HCQ 5μM
HCQ10μM
HCQ 20μM
HCQ 50μM

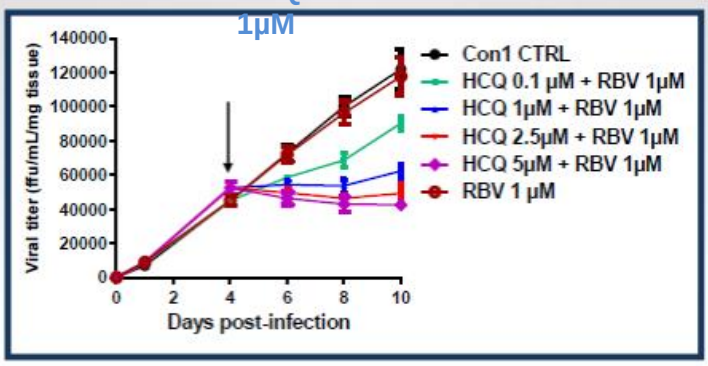
RBV



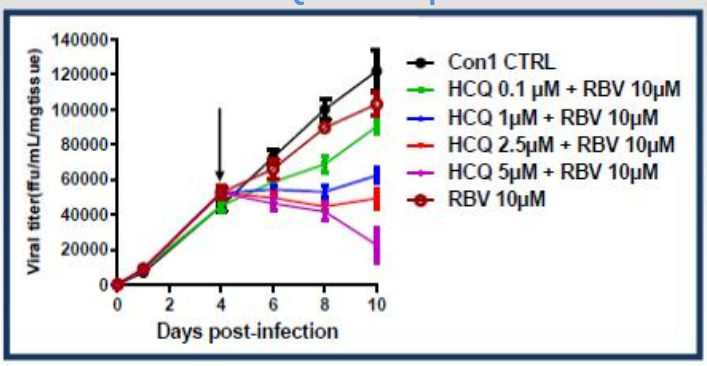
Con1 CTRL
RBV 1 μM
RBV 10μM
RBV 20μM
RBV 50μM

HCQ and Ribavirin - Synergetic Effect

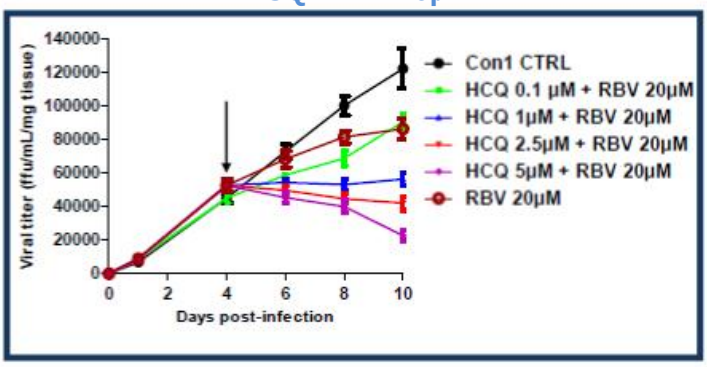
HCQ+RBV 1μM



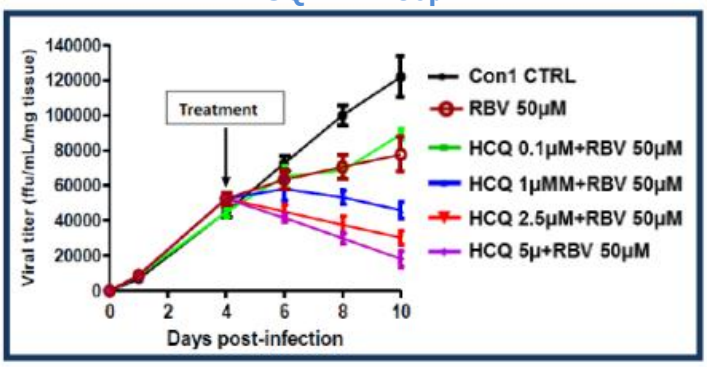
HCQ+RBV 10μM



HCQ+RBV 20μM



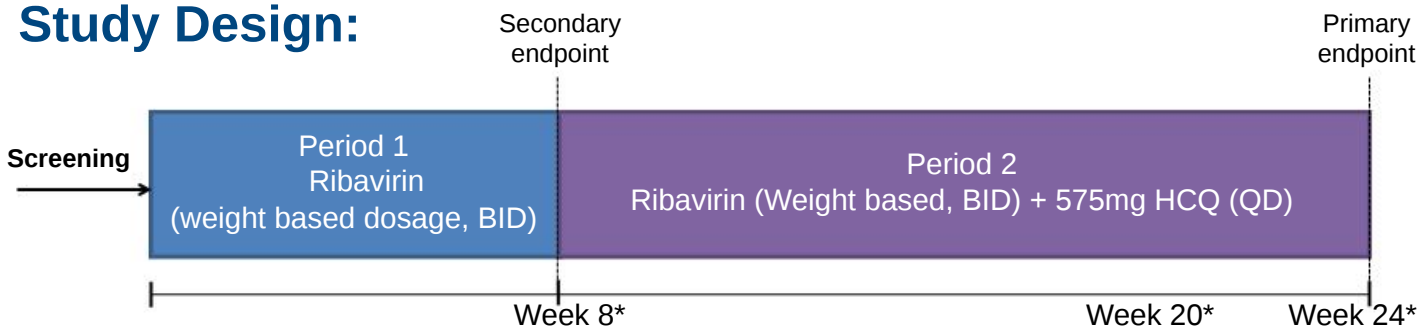
HCQ+RBV 50μM



BL-8020: Upcoming Phase I/II Clinical Trial

- Open-label study to evaluate efficacy, safety and tolerability of ribavirin mono-therapy, followed by a combined treatment with Ribavirin and HCQ
- Study conducted at two leading sites in France
  - Regulatory approval received in March 2013; FPI announced in April 2013
- Study population to include non-responders (null or partial) or relapsed patients
- Partial results expected Q413; full results H114

Study Design:



* Viral load reduction testing performed



CORPORATE

Financial Summary

- **Available cash as of March 31, 2013 - ~$28 million**
  - Annual burn rate between $12-14 million
  - Cash expected to last into 2015
- **Number of employees - 43**
  - **Capital structure (on basis of ADSs)**
  - 22.3 million outstanding - basic capital
  - 27.8 million outstanding - fully diluted capital (incl. warrants and stock options)
- **Shareholder profile:**
  - Public - 67%
  - Orbimed - 12%
  - Pan Atlantic Investment Fund - 10%
  - Teva Pharmaceuticals - 5%
  - Ayer Capital Partners - 5%
  - Other - 1%

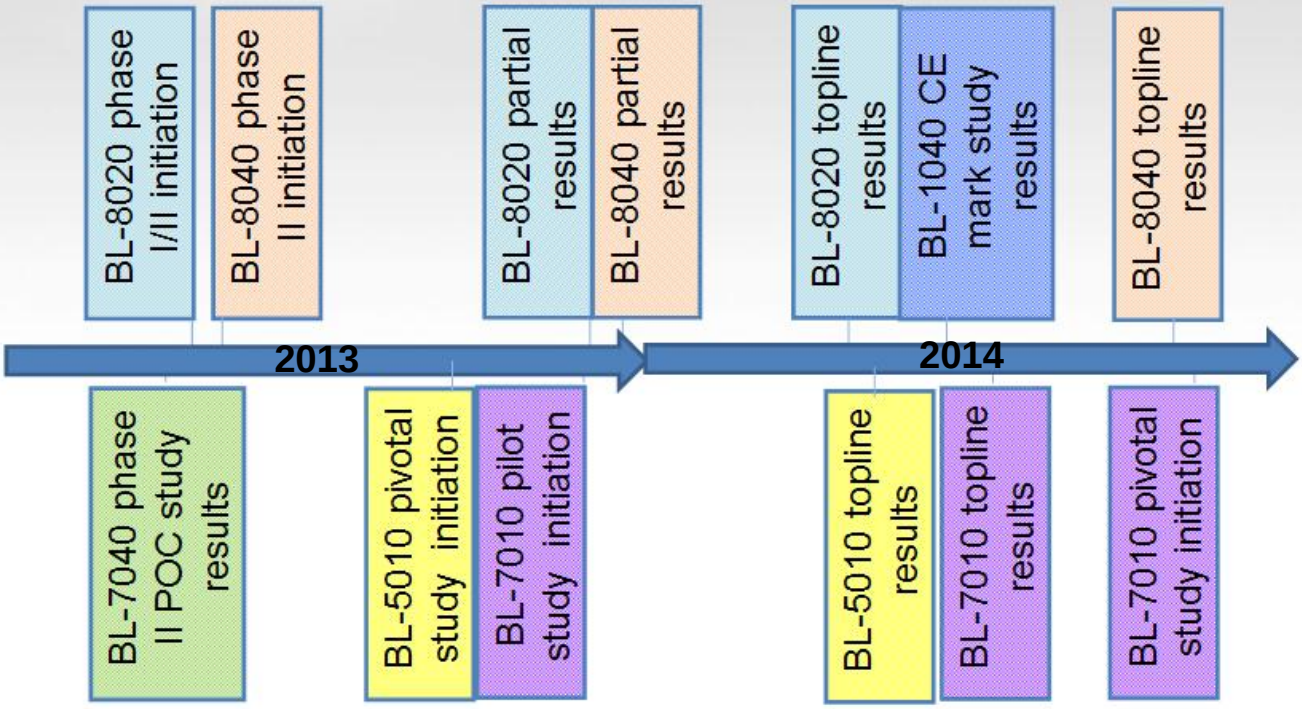
Analyst Coverage

BioLineRx Ltd. is followed by the analysts listed below:

Analyst	Firm
Raghuram Selvaraju	Aegis Capital Corp.
Steven Tepper	Harel Finance
Robert Hazlett	Roth Capital Partners, LLC

Please note that any opinions, estimates or forecasts regarding BioLineRx Ltd.'s performance made by these analysts are theirs alone and do not represent opinions, forecasts or predictions of BioLineRx Ltd. or its management. BioLineRx Ltd. does not by its reference above or distribution imply its endorsement of or concurrence with such information, conclusions or recommendations.

2013-14 Anticipated Clinical Milestones



Bench to Bedside to Partner

BIOLINERX