BIOTRON LIMITED
(ASX:BIT)

Investor Update
May 2014

Forward Looking Statements

This presentation may contain forward-looking statements with respect to the financial condition, results and business achievements/performance of Biotron Limited (ACN 086 399 144) and certain of the plans and objectives of its management. These statements are statements that are not historical facts. Words such as “should”, “expects”, “anticipates”, “estimates”, “believes” or similar expressions, as they relate to Biotron Limited, are intended to identify forward-looking statements. By their nature, forward-looking statements involve risk and uncertainty because they reflect Biotron’s current expectations and assumptions as to future events and circumstances that may not prove accurate. There is no guarantee that the expected events, trends or results will actually occur. Any changes in such assumptions or expectations could cause actual results to differ materially from current expectations.

Financial Information

Key Financial Metrics

Ticker Code	ASX: BIT
Share Price (26 May 2014)	A $0.09
Market cap	A $20.4 million
12 Month Trading Range	A $0.075 – 0.315
Shares Outstanding	228 million
Options	5 million (incentive option plan)
Cash Position (03/14)	A $2.65mn
Monthly Burn rate (2013 FY)	A $0.33mn

Shareholder Register

No. shareholders	2100
Top 20 shareholder ownership	78.6 million (34.44%)
Director/Management ownership	14.6 million (6.40%)

Investment Proposition

- HCV market is high growth, multi-billion dollar market
- Treatment gaps remain
- Phase 2a/2 clinical trials with BIT225 have demonstrated efficacy
- BIT225 is well positioned to fill significant HCV treatment gaps
    - HCV Genotype 3
    - HIV/HCV co-infected patients
    - Cirrhotic patients
- Flexibility to combine with any DAA or IFN/RBV options
- Significant value already created
- Short-term key value inflection events
- HIV provides additional value opportunity
- Significantly undervalued in comparison with other HCV companies

Global Market for Hepatitis C

- Worldwide market for Hepatitis C forecast to grow from $4.7bn in 2012 to over $18bn by 2018
  - 180 million people infected worldwide (3% world population)
  - 5 million patients in US
  - 30 million patients in China
- New drugs have demonstrated significant pricing power
  - Gilead's Solvaldi (Sofosbuvir) at US$84,000 for a 12 week course
  - JNJ's Olysio (Simeprevir) at US$65,000 for a 12 week course
- Gilead's Solvaldi – Q1 2014 sales US$2.3 bn
- Additional new drugs are soon to enter the market
  - Not pan-genotypic
  - 12 weeks treatment minimum
  - Still room for new players such as BIT225

Biotron - Overview

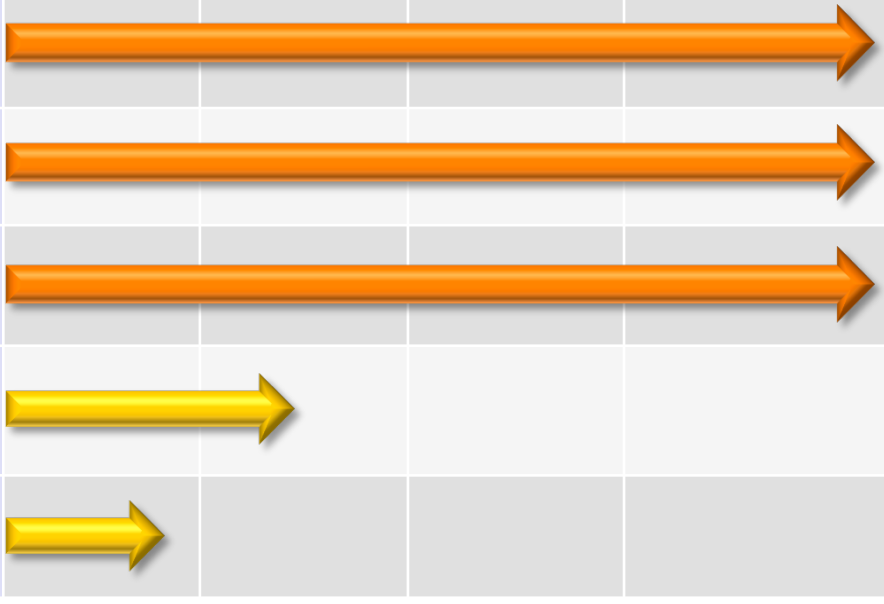
- Focused on creating shareholder value with clinical programs for lead drug, BIT225
  - Novel approach to treating HCV and HIV infections
  - Unique mechanism of action
  - Significant value has been already created
    - Completed Phase 2 clinical trials have demonstrated efficacy against HCV and HIV
  - Ready to progress into Phase 2b trials
  - Patents issued and pending in US and other key markets
- A solid package of data will support a licensing/M&A transaction for late-stage clinical development

Biotron - Technology

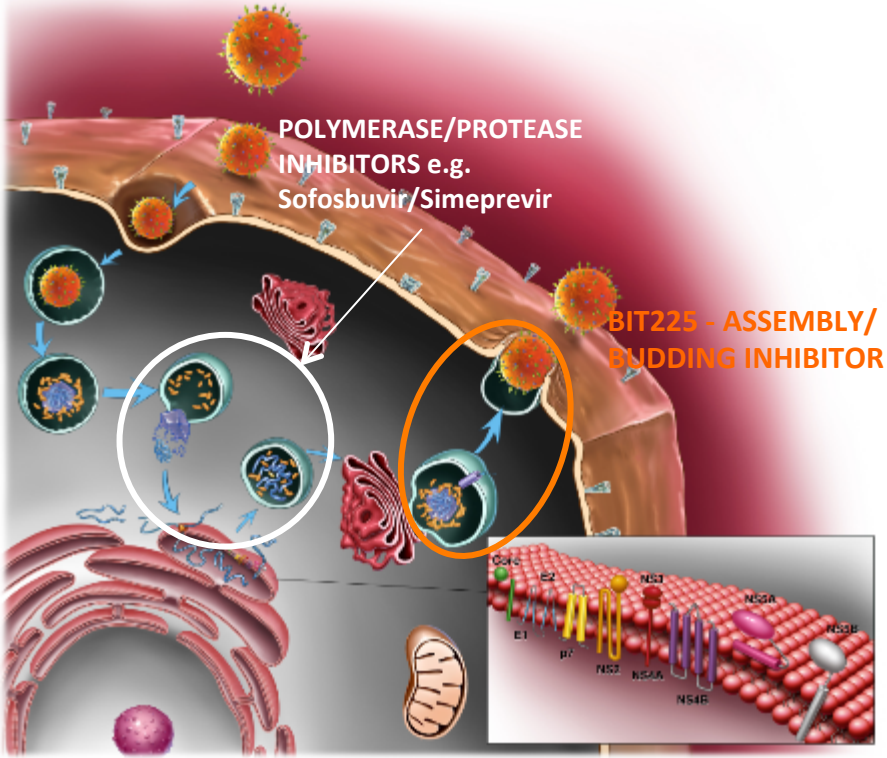
- Leader in developing viroporin inhibitors for the treatment of viral infections
    - Target proteins are present in influenza (M2), HIV (Vpu), Hep C (p7), Dengue and West Nile (M protein), SARS (E protein) and others
    - Rapid proprietary primary screening assays for target proteins
- Pipeline of first-in-class small molecule viroporin inhibitors for key markets

Biotron - Advanced Pipeline Overview

INDICATION	COMPOUND	DISCOVERY	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3
Hep C	BIT225					
HIV/Hep C	BIT225					
HIV	BIT225					
Next generation - HCV	BIT314					
Dengue	Leads					



BIT225 – First of a New Class of HCV DAA Drugs



- ✓ Novel, oral, small molecule compound
- ✓ Only one of its class (p7 inhibitor) in clinical trials
- ✓ Inhibits viral assembly and infectivity
- ✓ Pan-genotype activity:
  - ✓ Active *in vitro* against all main genotypes
  - ✓ Clinically active against hard-to-treat HCV Gen 1 (1a and 1b) and Gen 3
- ✓ Also active against HIV hiding in reservoir cells

Biotron

BIT225 – Strategic Positioning

- Novel target and mechanism of action
- Target difficult to treat populations
- Current DAAs are poor in certain patient groups
  - Gen 3 and Cirrhotics
  - Issues with some DAAs (e.g. protease inhibitors) in HIV/HCV co-infecteds
- Potentially safe to use in combination with IFN/RBV, new DAAs and HIV ART regimens
- New class – may prevent resistance to other DAAs in combination
- High barrier to resistance in trials to date
- Strong IP
- Available for licensing

BIT225 – Differentiated Product Profile

Drug Class	HCV Genotype 1	HCV Genotype 3	HIV/HCV co-infected	Cirrhotics
Interferon & Ribavirin	–	✓	–	✗
NS5A inhibitors	✓	✓	✓	–
NS5B polymerase inhibitors	✓	–	✓	–
NS3/NS4A protease inhibitors	✓	–	✗	–
BIT225 (p7 inhibitor)	✓	✓	✓	?

BIT225 Development Strategy

- Multiple pathways to demonstrate clinically relevant improvements in efficacy
  - Improved SVR rates in difficult-to-treat populations
  - Shorter treatment duration
  - Interferon and Ribavirin (IFN/RBV) free regimens
- Demonstrate 3 months safety and efficacy with new and old SOC in HCV Gen 3
  - BIT225-008 Trial – Gen 1 & 3 patients with IFN/RBV (Thailand – in progress)
  - BIT225-009 Trial – Gen 3 patients in combination with DAA + RBV (USA/EU - proposed)

BIT225 Clinical Program – Trials to Date

- **BIT225-001**: Phase 1a, single dose, dose escalating study in healthy volunteers (48 subjects; Aust)
- **BIT225-003:** Phase 1b, 7-day, repeat dose study in HCV+ patients (35 and 200 mg BID; 18 subjects; Aust)
- **BIT225-004:** Phase 2a, 10-day, repeat dose study in HIV+ patients (400 mg BID; 21 subjects; Thailand)
- **BIT225-005**: Phase 2a, 28-day, repeat dose study in HCV G1 patients in combination with PEG/RBV (200 and 400 mg BID; 24 patients; Thailand)
- **BIT225-006:** Phase 2, 28-day, repeat dose, open label study in HIV/HCV G1 and 3 co-infected patients in combination with PEG/RBV (300 mg BID; 12 patients; Thailand)
- **BIT225-007:** Phase 1, BE/PK study in healthy volunteers, cross-over, single dose comparing capsule formulation with existing powder (400 mg BID; 12 subjects; Aust)
- **BIT225-008:** Phase 2, 3 month, repeat dose study in HCV+ patients (G1 & 3) in combination with PEG/RBV (200 mg BID; 60 subjects; Thailand) IN PROGRESS

NB BIT225-002 was an ex vivo *study of BIT225 on HIV-infected cells isolated from HIV-positive patients*

Phase 1 Trials

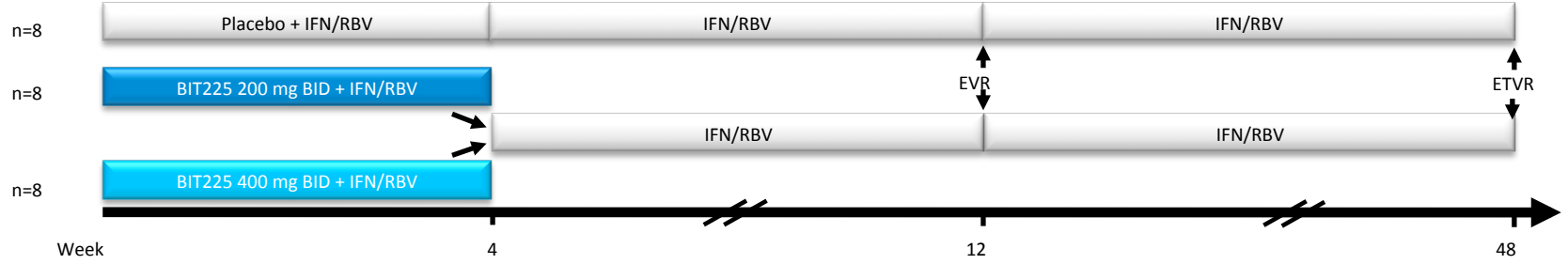
- BIT225-001 & BIT225-003 Trials
  - Phase 1 studies to demonstrate safety and identify initial dose response
  - 35mg to 600mg BIT225 single dose escalation in 48 healthy volunteers
  - 35mg and 200mg BIT225 BID for 7 days in 18 HCV-infected patients

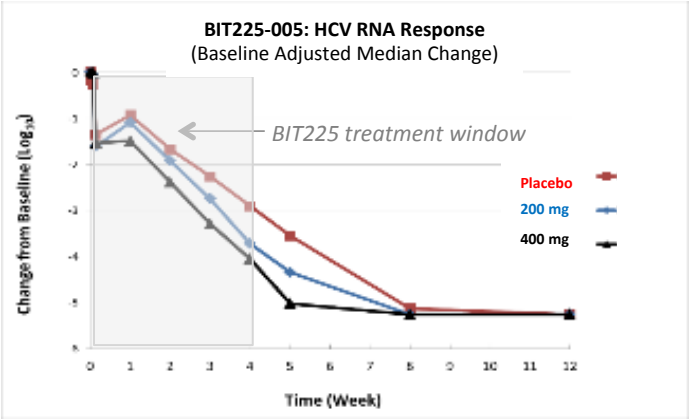
- Results and Conclusions
  - BIT225 was well tolerated
    - The most common AEs were nausea, vomiting and headaches
    - No SAEs
  - First demonstration of BIT225 efficacy in HCV patients

Phase 2a - BIT225-005

- Phase 2a trial
  - Double blind, placebo controlled trial in treatment naïve HCV Genotype 1 patients (n=24)
  - 200mg and 400mg BID doses of BIT225 for 28 days with SOC IFN/RBV for 48weeks; randomized 1:1:1
- Results
  - BIT225 demonstrated good antiviral activity against HCV Genotype 1a and 1b
    - Numerical superiority at all time points in both doses
    - BIT225 accelerated the decline in HCV viral load vs SOC in both doses
    - **100% receiving 400mg BIT225 were virus-free at 48 weeks**
  - BIT225 was well tolerated with IFN/RBV where most common AEs were fever, vomiting and headache
  - 5 SAEs in the trial
    - 1 SAE occurred 2 days after completion of treatment and symptoms resolved without sequelae
    - 1 case of horizontal diplopia leading to blurred vision; patient discontinued; symptoms resolved without sequelae
    - 3 SAEs were related to vomiting and vertigo during week 1; patients ceased treatment for 1 to 5 days until symptoms resolved and all returned and completed the full 28 day treatment with no further issues

BIT225 - Clinical Activity in BIT225-005





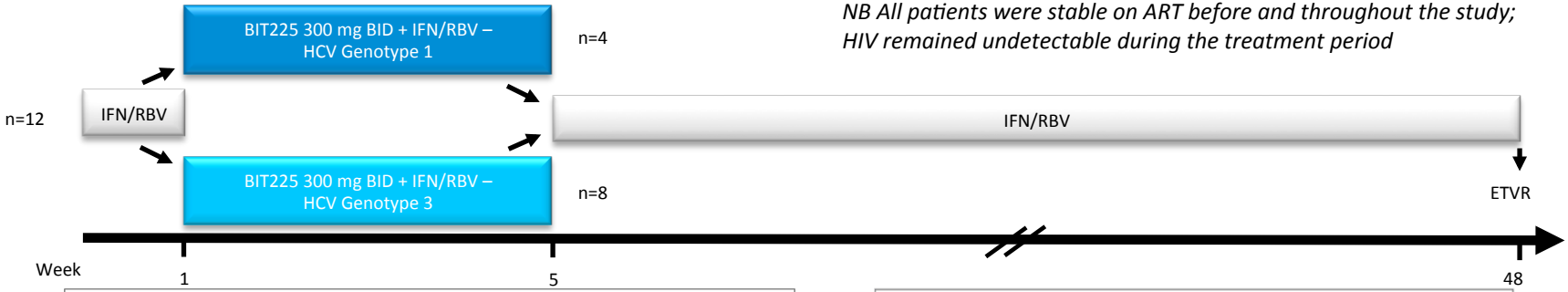
Treatment	Median log reduction at 35 days	% Complete EVR (<50 IU/ml at 12 weeks)	% ETVR (<50 IU/ml at 48 weeks)
400 mg BIT225 + SOC	-4.957	86	100
200 mg BIT225 + SOC	-4.351	88	88
Placebo + SOC	-3.649	63	75

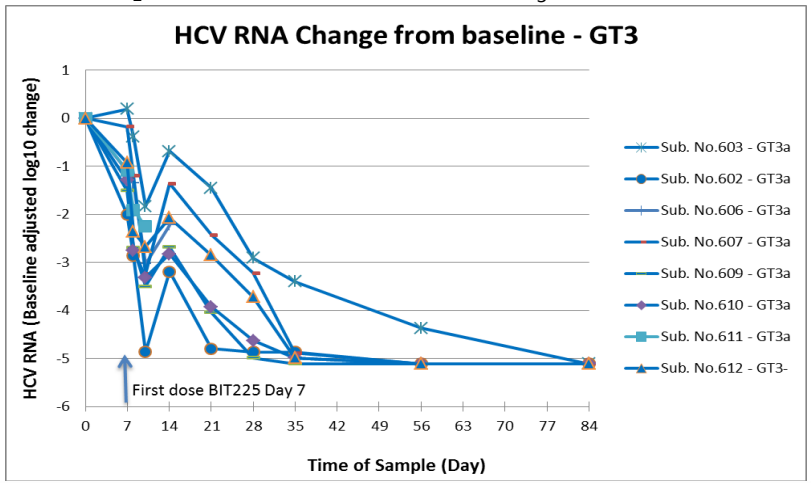
Phase 2 - BIT225-006

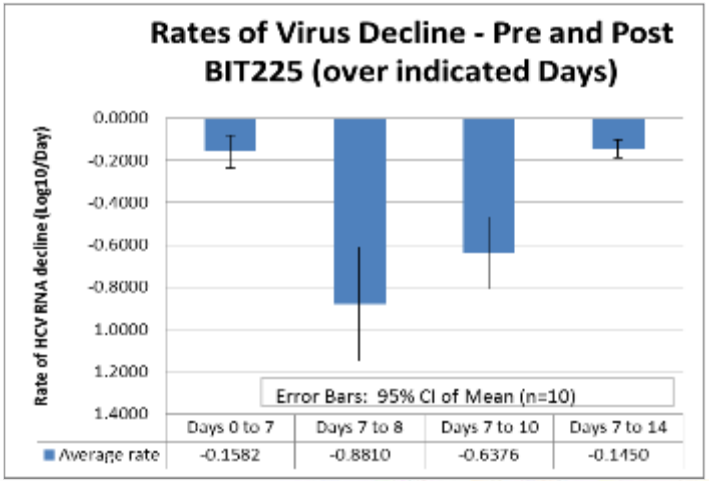
- Phase 2 trial
  - On-going, open label study in HIV/HCV Gen 1 & 3 co-infected patients on stable ART regimens (n=12)
  - 300mg BID BIT225 for 28 days in combination with IFN/RBV, with a 7 day lead in with IFN/RBV prior to commencing BIT225
- Results (Interim)
  - 7 patients achieved clearance of the HCV virus by week 12, with 2 non-responders and 3 drop outs
    - 3 drop outs due to nausea, vomiting and headache within 14 days of starting treatment
    - 2 non-responders were both Gen 1a patients and IL28b CT/GT heterozygous
  - 300mg BIT225 BID with IFN/RBV was well tolerated in patients on stable ART regimens
    - Most common AEs were headache, hypokalemia and vomiting
    - 1 SAE of nausea and vomiting in a patient with neutropenia; withdrew from study
- Conclusions (Interim)
  - **All Gen 3 patients on remaining on trial have HCV viral loads below detectable levels at 24 weeks**
  - HCV viral load reductions were particularly rapid in patients with HCV Gen 3 (n=8)
  - 300mg BID of BIT225 generally well tolerated in combination with IFN/RBV and ART in patients co-infected with HCV Gen 1 or 3 and HIV-1

BIT225 - Clinical Activity in BIT225-006 (interim data)

NB All patients were stable on ART before and throughout the study; HIV remained undetectable during the treatment period

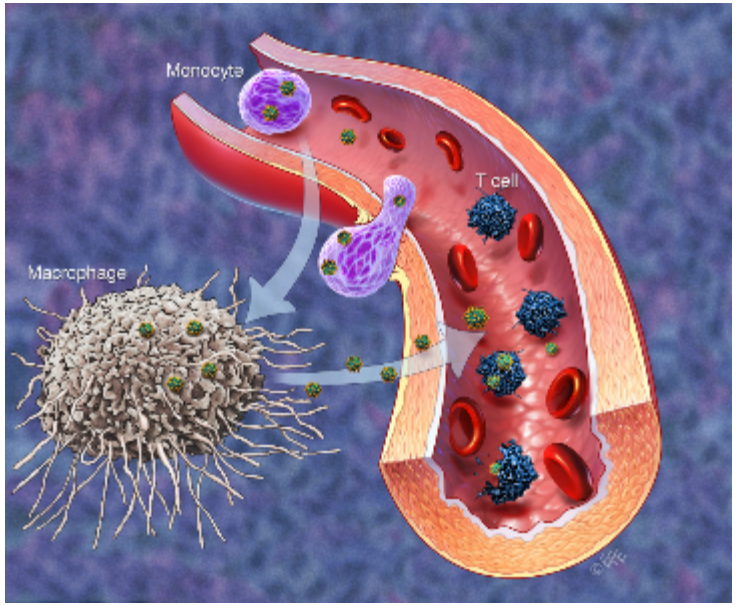




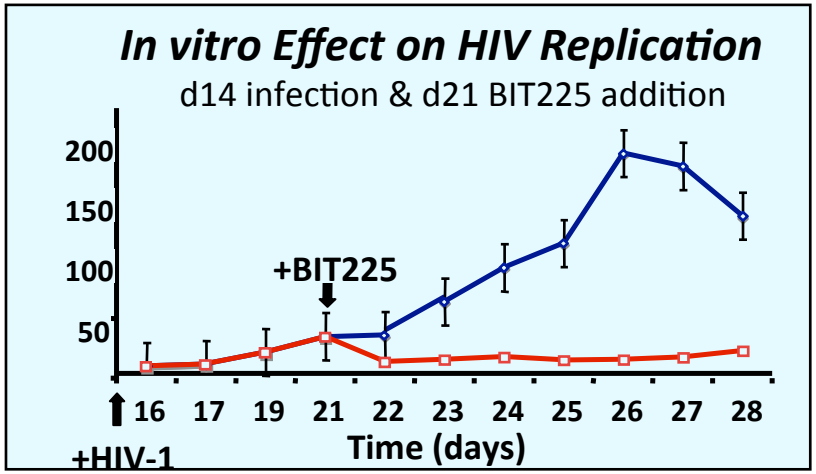


HIV – Towards a Cure

- Currently, patients need to stay on antiretroviral drugs (ART) to keep virus levels under control
- Industry is now focused on developing drugs to eradicate or cure HIV infection



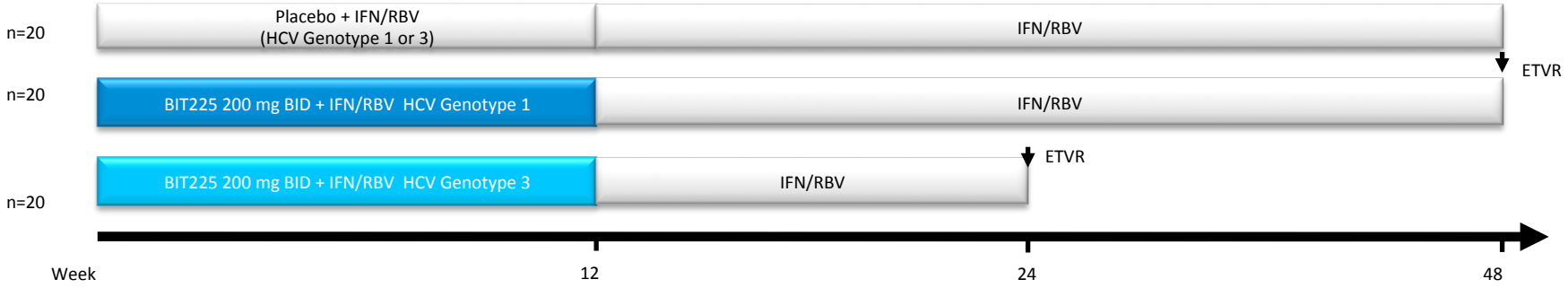
- BIT225 targets HIV Vpu; interferes with assembly and budding of new virions
- Phase 2a trial demonstrated BIT225 can reduce HIV levels in macrophage cells *in vivo*, paralleling *in vitro* studies
- BIT225 may provide additional benefit in HIV/HCV co-infected patients due to anti-HIV activity



BIT225 Profile

- Efficacy
  - Pan-genotypic activity *in vitro*
  - Clinical efficacy demonstrated in HCV Gen 1 and Gen 3 and HCV in HCV/HIV co-infected patients
  - Accelerated decline in HCV viral load over IFN/RBV
- Safety
  - Safety profile generally consistent with IFN/RBV
  - Well tolerated in doses up to 400mg BID for 28 days
  - Most common adverse events are nausea, vomiting and headache within the first 7 days of treatment
- Next Steps
  - 12 week treatment with BIT225 in combination with IFN/RBV (in progress),
  - Initiate 12 week study of BIT225 with newly approved DAA
  - Demonstrate benefit for difficult to treat populations such as the HCV Gen 3, HCV/HIV co-infected and cirrhotic patients
  - Partner BIT225 for combination with other DAAs in development

BIT225-008: Phase 2 HCV Three-Month Dosing Trial



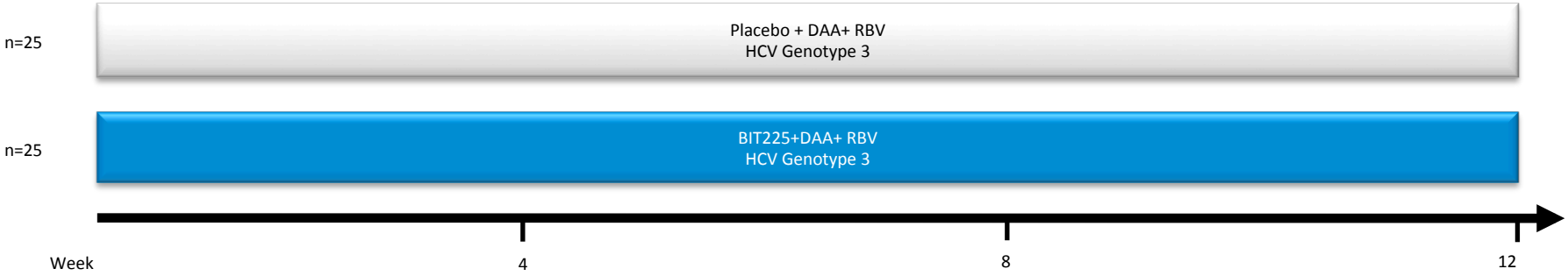
Design:

- Randomized, placebo-controlled, double-blind trial (n=60)
- Treatment naïve, HCV gen 1 and 3
- 3 months dosing with BIT225 in combination with IFN/RBV
- Using new capsule formulation
  - 1.6 fold higher blood levels than previous formulation
- IN PROGRESS (Thailand); expect to complete recruitment mid-2014

Aims:

- Demonstrate safety of BIT225 with 3 months dosing
- Extend HCV gen 3 efficacy data

BIT225-009: HCV Phase 2 Combination Trial with DAA (proposed)



NB – Trial design and dosing is yet to be finalized and is subject to regulatory approval

Design:

- Randomized, placebo-controlled, double-blind trial
- Treatment naïve Gen 3
- 3 months dosing with BIT225 in combination with approved direct-acting antiviral DAA) drug
- Using new capsule formulation
- Expected to commence 2H14

Aims:

- Demonstrate safety of BIT225 with 3 months dosing
- Demonstrate efficacy of BIT225 in combination with DAA
- Show improvement in treatment of difficult to treat population

Potential to Create Further Value of BIT225 Program

- HCV cirrhotic patients
  - Safety profile suggests suitability for this hard to treat population with major unmet need
- HIV/HCV co-infected study
  - In combination with DAA(s)
  - Supported by DDI study
  - Potential for part-funding from bodies such as ACTG
- Progress next generation BIT314 through IND-enabling studies into first-in-man phase 1 trial
  - Promising clean preclinical profile
  - Potent anti-HCV activity *in vitro*
- Pipeline development of earlier stage antiviral programs, including Dengue

Investment Highlights

- Novel approach to treating Hepatitis C and HIV infections
  - Phase 2 clinical trials have demonstrated efficacy
  - Strategically positioned for use in hard-to-treat subpopulations of Hepatitis C, including
    - Genotype 3
    - HCV/HIV co-infected
    - Cirrhotics
  - Next trials will demonstrate 3 months safety and efficacy
    - Will assist with partnering within the DAA landscape
- Patents issued and pending in US and other key markets covering composition of matter and use
- Promising next generation BIT314 ready to progress to IND-enabling studies
- Company is well positioned to attract a pharma partner at conclusion of outlined clinical program in a relatively short timeframe
- Significant valuation upside compared to other HCV companies

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