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AGM 28 November 2012

Milestones Achieved in 2011/2012

- **Clinical Programs:**
  - HCV – Completed Phase 2a trial; positive data recorded
  - HIV - Phase 2a trial commenced end 2011; data expected 1Q2013
  - HIV/HCV co-infected - Phase 2 trial commenced Oct 2012

- **Non-Clinical Programs:**
  - Progressed development of next-generation HCV inhibitor
    - BIT314 has increased potency; good safety and druggability characteristics in preclinical tests done to date

Milestones Achieved in 2011/2012

- **Value-adding, supporting R&D activities:**
  - Manufactured 10kg GMP BIT225
  - Developed a capsule formulation for future trials
  - Commenced three-month toxicology/safety studies

- **Other:**
  - Strengthened Biotron's team – new staff and directors
  - Strong financial position after raising $8 million in Dec 2011

GLOBAL PERSPECTIVE

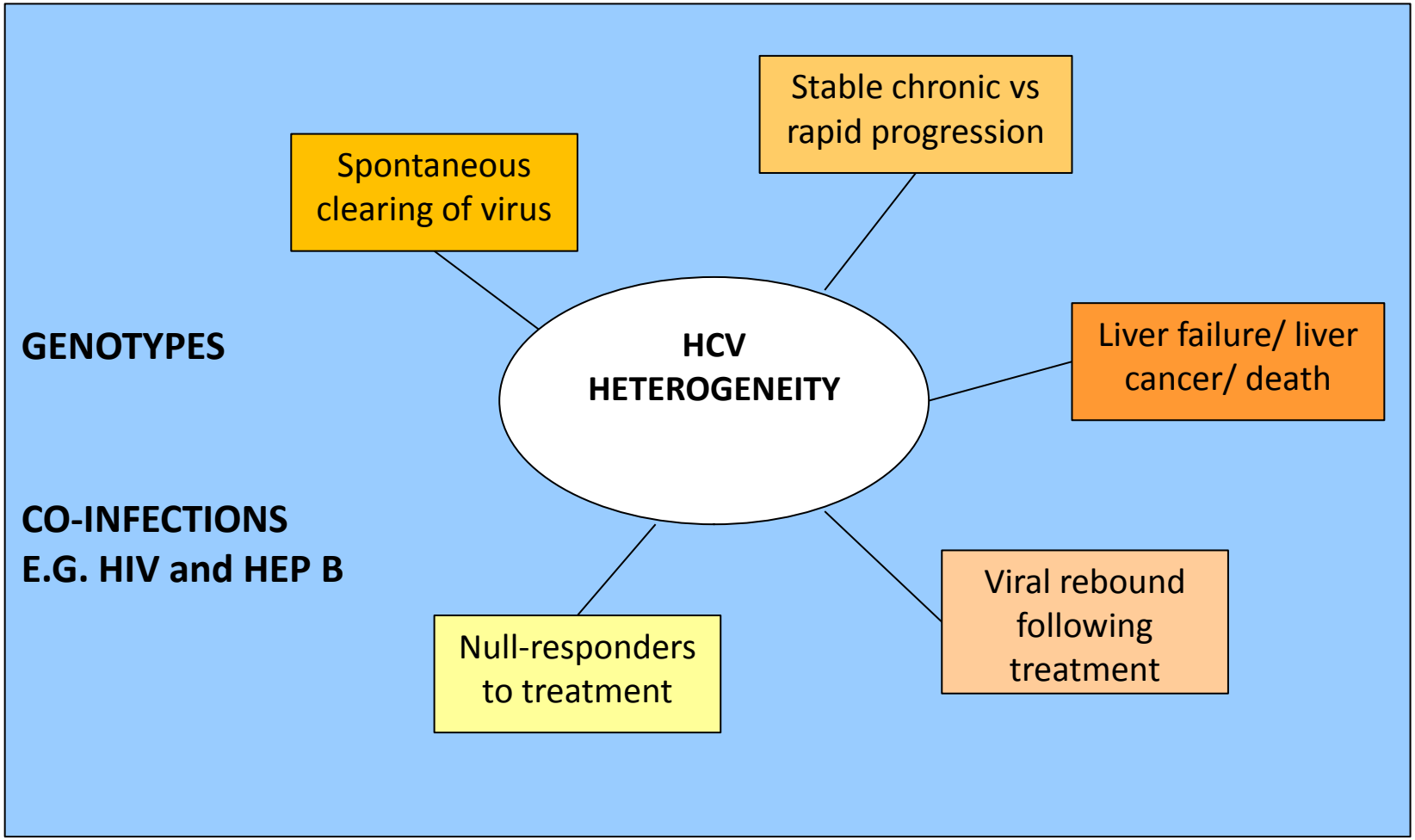
BIT225 has demonstrated clinical efficacy against HCV

- **What does this mean?**
- **Where does BIT225 fit with other HCV programs?**
- **Where to next?**

HCV - Background

- 180 m people infected worldwide (3% world population); 130 m are chronically infected; 4 m patients in US (2.7 m chronically infected)
- Majority of infected patients remain untreated or untreatable
  - Reportedly only 2.6% are treated each year
  - Up to 50% patients don’t respond to current treatment
  - Standard of care is interferon and ribavirin
  - Significant side effect profile – high drop out rate
  - Documented need for new, safer, direct-acting antiviral (DAA) drugs

HCV – Complexity of Disease



Direct Acting Antivirals – What's the Story?

- Industry focus is on developing new direct-acting antivirals (DAAs)
- Future treatments expected to be cocktails of different classes of DAAs
  - Remember HIV (multi-drug resistance; evolution of treatment options)
- Likely to be more than one cocktail to cover the wide spectrum of HCV disease

There is unlikely to be just one "winner" in the HCV race

CLASSES IN DEVELOPMENT

- Interferon-lambda
- NS5B (polymerase) inhibitors
- NS5A inhibitors
- NS3 (protease) inhibitors - NEW
- P7 inhibitors BIT225
- NS4B

APPROVED

- Interferon-alpha
- Ribavirin
- NS3 (protease) inhibitors

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Direct Acting Antivirals – Race isn't over

***BIT225**

	NS5B** (polymerase)	NS5A	NS4B	Entry Inhibitors	NS3 (protease)	p7
Phase 1	5	6	1	1	1	0
Phase 2	11	0	0	0	8	**1***
Phase 3	1	1	0	0	3	0
Phase 4 (approved)	0	0	0	0	2	0

Source – clinicaltrials.gov (Nov 2012)

*****Over 12 NS5B drugs have failed or been withdrawn since 2007***

- including Ph2 BMS/Inhibitex drug bought for $2.5 billion in Jan 2012

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Future for HCV Treatment

- In the absence of a crystal ball, but based on latest data and key opinions at AASLD:
  - Likely to have a NS5B polymerase and a NS3 protease at its core
  - Likely to include ribavirin
  - At least one, and most likely two, other classes of drugs
    - Ideally, one of these will be BIT225
  - There will most likely be a number (maybe 2-4) different combinations to treat the whole spectrum of HCV disease, for example:

NS5B	NS3
RBV	p7

NS5B	NS3
RBV	NS5A

NS5B	NS3
NS4B	p7

Factors Affecting Treatment Options

Complex disease which will require a range of treatment options, including different combinations of DAAs

- What will determine treatment selection?
  - Price
  - Side-effect profile
  - Interaction with other drugs
  - Disease status
  - Efficacy (genotype, responder status, etc)
  - Evolution of treatment options as new drugs come to market
  - Commercial interests

Where are the Treatment Gaps?

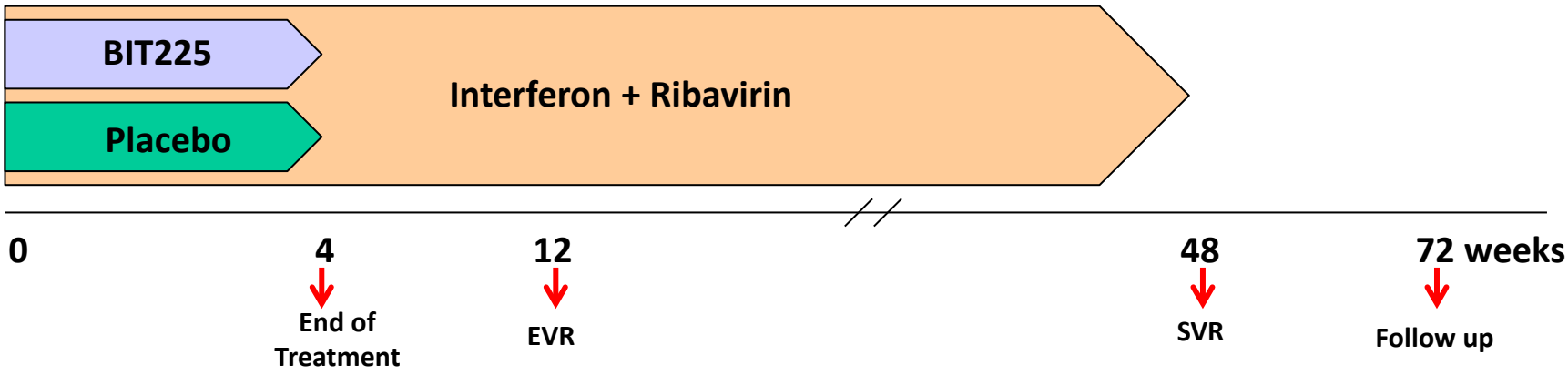
- Despite recent encouraging data from various trials, significant gaps remain
- Hard-to-treat groups include:
  - Genotype 1a
  - Null-responders
  - Partial responders
  - HCV/HIV co-infected population

BIOTRON'S ANTIVIRAL PROGRAM UPDATE

BIT225 and HCV

- ✓ Only one of its class (p7 inhibitor) in clinical trials
- ✓ Works at later stage of virus life cycle to other classes of drugs
- ✓ Doesn’t readily generate resistance
- ✓ Synergistic with HCV polymerase inhibitors in laboratory studies
- ✓ Active against hard-to-treat genotype 1a
- ✓ Potential for use in HCV/HIV co-infected patients

HCV Phase 2 Trial Design & Results



Treatment	12 WEEKS Early Response*	48 WEEKS Sustained Response*
400 mg BIT225 + SOC	86%	100%
200 mg BIT225 + SOC	88%	88%
Placebo + SOC	63%	75%

**virus levels below limit of detection i.e. 50 IU/ml*

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HCV Phase 2 Trial Results

- Clear demonstration that this first in class, direct-acting antiviral drug has good antiviral activity in treatment-naïve genotype 1 patients
    - Includes difficult to treat genotype 1a
- Well tolerated at the doses selected in trial
- Confirmed preclinical findings that BIT225 is synergistic with IFN and ribavirin
- Potential to combine with new classes of DAAs
    - Preclinical efficacy studies demonstrated synergism with NS5B polymerase inhibitors

BIT225 and HIV

- Current international focus on strategies for elimination or cure of HIV

  BIT225 Prevents production of infectious virus in reservoir cells

  Potential to eliminate this long-lived source of virus in the body

- Commenced a Phase 1b/2a trial in HIV-positive patients in September 2011
  - 24 patients, HIV+, treatment-naïve, high viral loads, healthy CD4 counts

- Biotron has a unique position as BIT225 works on both HIV and HCV
  - No other drugs target both viruses

HCV/HIV Co-Infected Background

- 20 – 40% HIV-infected patients are also infected with HCV in the US
- Significantly worse prognosis than mono-infected
- Faster HCV disease progression
- Trials in progress:

***BIT225**

	NS5B (polymerase)	NS5A	NS3 (protease)	p7
Phase 1	0	0	0	0
Phase 2	0	0	0	**1***
Phase 3	0	1	2 (new) 2 (approved**)	0
Phase 4 (approved)	0	0	0	0

**Approved for HCV (not HIV/HCV)

Potential for adverse drug-drug interactions

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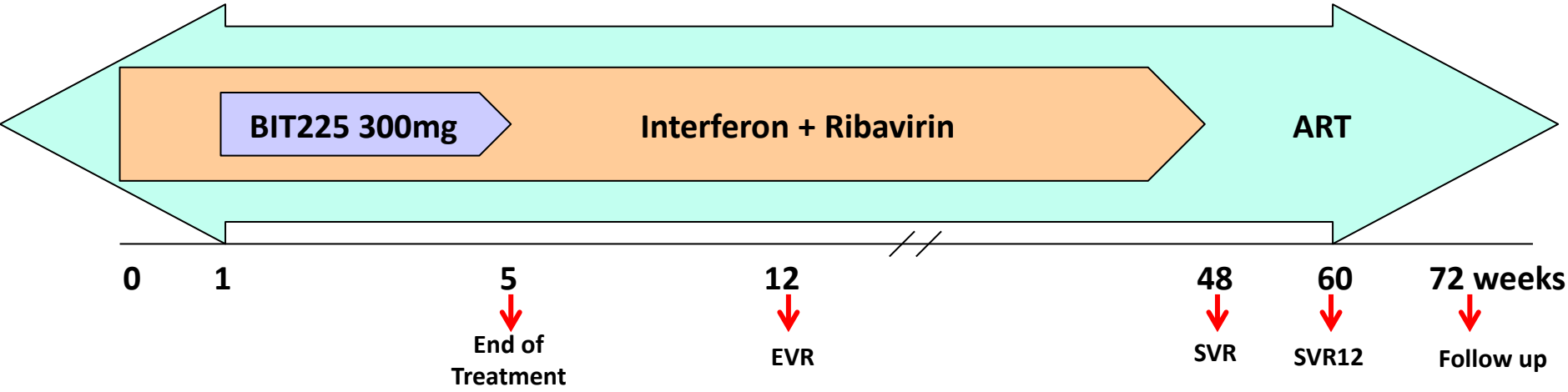
HCV/HIV Phase 2 Trial Design



- 12 patients
  - HIV+, on antiretroviral treatment (ART) with stable disease
  - HCV+, treatment-naïve
  - Genotypes 1, 2 and 3
- Commenced October 2012
- Expected to run through 1H2013

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BIT225 - Supporting Activities Update

- Completed manufacture of 10 kg of GMP BIT225
  - Demonstrated robustness and reproducibility of manufacturing process
  - Sufficient for current and anticipated near-future clinical trials
- Completed development of an improved, capsule formulation of BIT225
  - Important for ease of use, handling, and patient compliance in future larger scale trials
- Commenced three-month toxicology/safety studies
  - Essential for longer-term clinical trials

- These are critical activities in BIT225's development path, and central to achieving a successful commercial outcome for BIT225.

BIT314 – Next Generation for HCV

- Designed as a follow-on from BIT225
- Increased potency against p7
- Favourable safety and druggable characteristics in preclinical testing to date
- Undergoing extensive pharmacological analyses

- Anticipate moving BIT314 to manufacture and formal preclinical tox/safety studies in 1H2013, and into first-in-human studies in the 2H2013

STRATEGIC DIRECTION FOR BIOTRON'S ANTIVIRAL PROGRAM

BIT225 – Potential Future

- **Hepatitis C**
  - Part of combination cocktail with polymerase and protease inhibitors
    - Unique mode of action
    - Good drug-drug interaction profile
    - Limited alternative classes for combinations
- **HIV**
  - Add-on to anti-retroviral treatment to clean out underlying reservoirs
- **HIV/HCV**
  - Part of combination cocktail with either IFN/RBV and/or other new DAAs

BIT225 – What are the Next Steps?

- Other DAA HCV trials moving to at least 3 month dosing
  - Need 3 month human data with BIT225 before can be considered for combination with other new DAAs
  - Require 3 month tox/safety studies for these longer duration human studies
- Proof-of-concept in the clinic against HIV
- Activity against HCV in HIV/HCV co-infected population
- Development of next-generation inhibitors
  - Validates Biotron's ability to design and develop clinically-relevant inhibitors of viroporin proteins found in a range of viruses

Multiple shots on goal driving asset value

Activities/Milestones for 2012/13

Clinical Activities:

- Complete Ph 2a HIV trial (1Q2013)
- Complete Ph 2 HIV/HCV co-infected trial (1H2013)
- Conduct bioequivalence study in healthy volunteers with new BIT225 capsule formulation (1H2013)
- Commence three-month Phase 2b HCV trial (2H2013)

Non-Clinical Activities:

- Complete the three-month toxicology studies (1H2013)
- Progress BIT314 through process development, scale-up activities, and preclinical toxicology studies (1H2013)

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