Second Quarter 2018 Financial Results

August 2, 2018

Agios Conference Call Participants

Prepared Remarks

Introduction

- RENEE LECK, Sr. Manager, Investor Relations

Business Highlights & 2018 Key Milestones

- DAVID SCHENKEIN, M.D., Chief Executive Officer

Clinical Development Progress

- CHRIS BOWDEN, M.D., Chief Medical Officer

TIBSOVO® Commercial Launch

- STEVE HOERTER, Chief Commercial Officer

Second Quarter 2018 Financial Results

- ANDREW HIRSCH, Chief Financial Officer

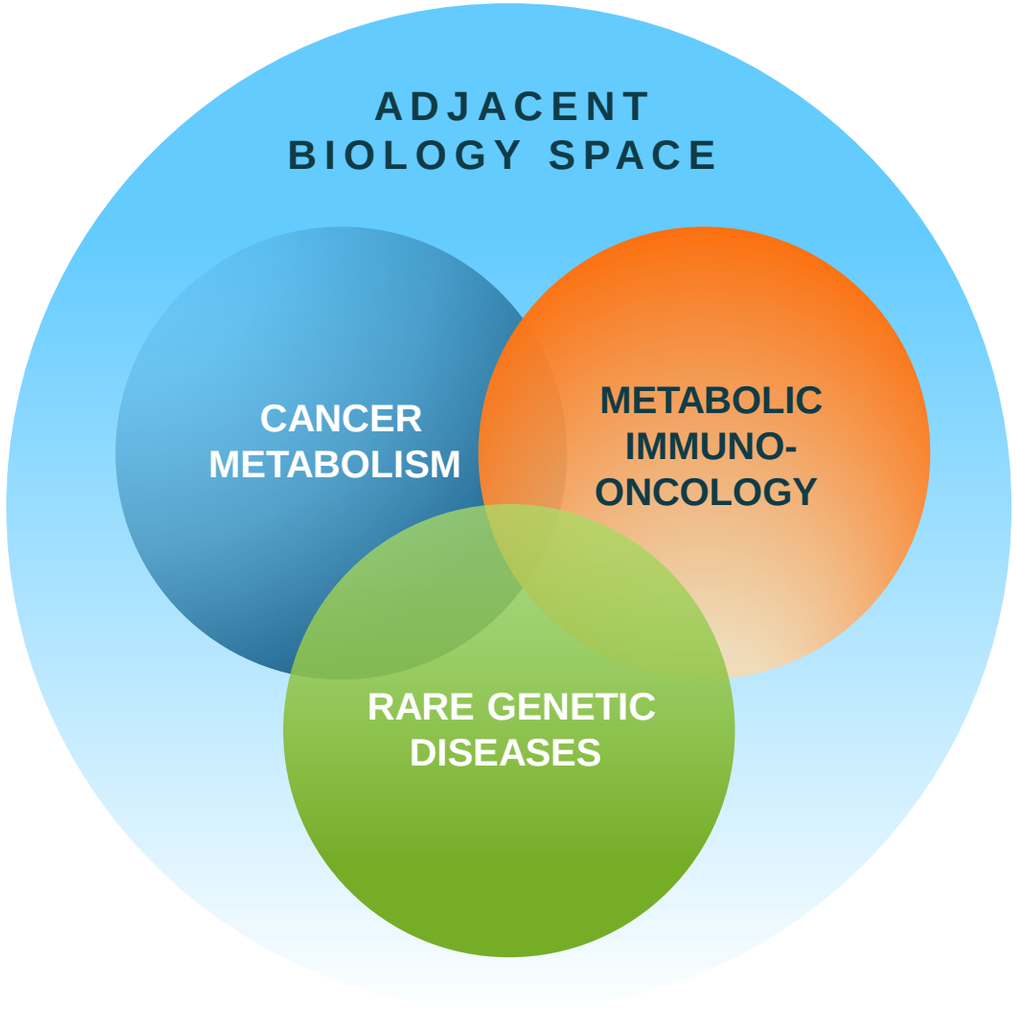
Forward Looking Statements

This presentation and various remarks we make during this presentation contain forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Such forward-looking statements include those regarding Agios' plans, strategies and expectations for its and its collaborator's preclinical, clinical and commercial advancement of its drug development programs including IDHIFA®, TIBSOVO®, AG-881, mitapivat (AG-348), AG-270 and AG-636; the potential benefits of Agios' product candidates; its key milestones for 2018; its plans regarding future data presentations; its financial guidance regarding the period in which it will have capital available to fund its operations; and the potential benefit of its strategic plans and focus. The words "anticipate," "believe," "could," "estimate," "expect," "hope," "intend," "may," "milestone," "path", "plan," "possible," "potential," "predict," "prepare", "project," "strategy," "will," "would," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Such statements are subject to numerous important factors, risks and uncertainties that may cause actual events or results to differ materially from Agios' current expectations and beliefs. For example, there can be no guarantee that any product candidate Agios or its collaborators are developing will successfully commence or complete necessary preclinical and clinical development phases, or that development of any of Agios' product candidates will successfully continue. There can be no guarantee that any positive developments in Agios' business will result in stock price appreciation. Management's expectations and, therefore, any forward-looking statements in this presentation and various remarks we make during this presentation could also be affected by risks and uncertainties relating to a number of other important factors, including: Agios' results of clinical trials and preclinical studies, including subsequent analysis of existing data and new data received from ongoing and future studies; the content and timing of decisions made by the U.S. FDA and other regulatory authorities, investigational review boards at clinical trial sites and publication review bodies; Agios' ability to obtain and maintain requisite regulatory approvals and to enroll patients in its planned clinical trials; unplanned cash requirements and expenditures; competitive factors; Agios' ability to obtain, maintain and enforce patent and other intellectual property protection for any product candidates it is developing; Agios' ability to maintain key collaborations, such as its agreements with Celgene and CStone Pharmaceuticals; and general economic and market conditions. These and other risks are described in greater detail under the caption "Risk Factors" included in Agios' public filings with the Securities and Exchange Commission. Any forward-looking statements contained in this presentation and various remarks we make during this presentation speak only as of the date hereof, and Agios expressly disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

Business Highlights & 2018 Key Milestones

David Schenkein, M.D., Chief Executive Officer

Driven By a Clear Vision and Values



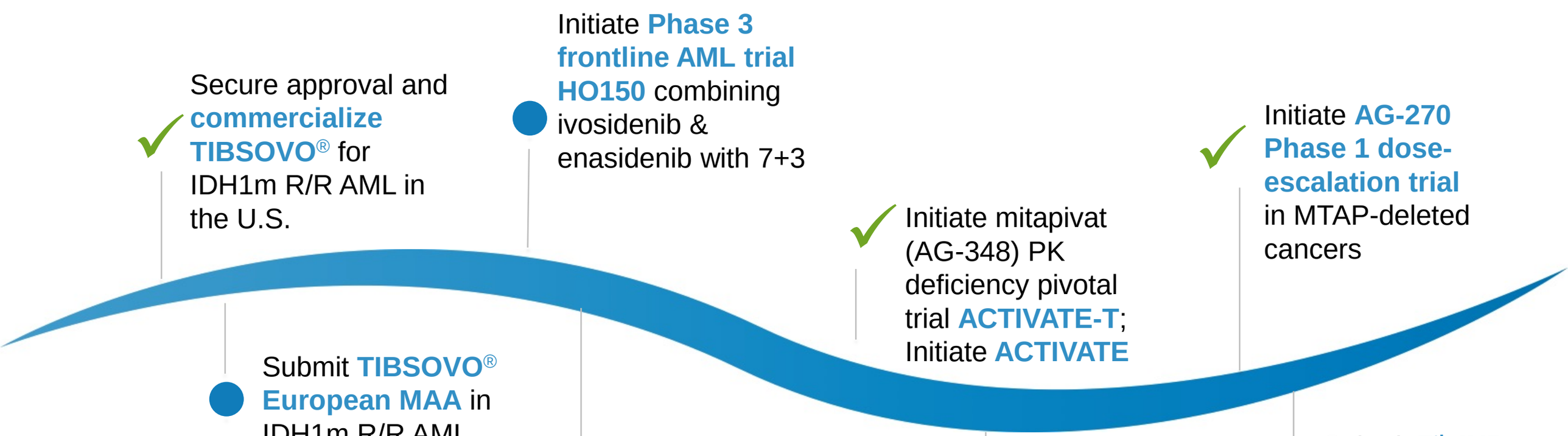
agios

Agios is passionately committed to applying our scientific leadership in the field of cellular metabolism to transform the lives of patients with cancer and rare genetic diseases.

Now Approved in IDH1m Relapsed/Refractory AML

TIBSOVO® is indicated for the treatment of adult patients with relapsed or refractory acute myeloid leukemia (AML) with a susceptible isocitrate dehydrogenase-1 (IDH1) mutation as detected by an FDA-approved test.

2018 Key Milestones



- ✓ Secure approval and **commercialize TIBSOVO®** for IDH1m R/R AML in the U.S.
- Submit **TIBSOVO® European MAA** in IDH1m R/R AML
- Initiate **Phase 3 frontline AML trial HO150** combining ivosidenib & enasidenib with 7+3
- ✓ Initiate low grade **glioma perioperative study** with ivosidenib and AG-881
- ✓ Initiate mitapivat (AG-348) PK deficiency pivotal trial **ACTIVATE-T**; Initiate **ACTIVATE**
- Initiate **mitapivat (AG-348) Phase 2 proof-of-concept trial** in thalassemia
- ✓ Initiate **AG-270 Phase 1 dose-escalation trial** in MTAP-deleted cancers
- Submit **7th IND for DHODH**

Expected Fourth Quarter Clinical Data Presentations

Key Abstracts Submitted to ASH

Updated data in IDHm newly diagnosed AML from the Phase 1 combination trial of ivosidenib or enasidenib with standard-of-care intensive chemotherapy

Updated data in MDS from the Phase 1 study of ivosidenib in IDH1m hematologic malignancies

Updated data in untreated AML from the Phase 1 study of ivosidenib in IDH1m hematologic malignancies

Clinical Development Progress

Chris Bowden, M.D., Chief Medical Officer

TIBSOVO® USPI Highlights*

First-in-class, oral, targeted inhibitor of mutant IDH1 protein

Efficacy Data (n=174)

- CR/CRh statistics
  - Rate: 32.8%
  - Median duration: 8.2 months
  - Median time to first response: 1.9 months
  - Median time to best response 2.0 months
- Transfusion independence
  - 37.3% of patients became transfusion independent during any 56-day post-baseline period
  - 59.4% of patients independent at baseline remained independent during any 56-day post-baseline period
- 12% of patients went on to stem cell transplant following TIBSOVO® treatment

Safety Data (n=179)

- The TIBSOVO® label contains a boxed warning for differentiation syndrome, which can be fatal if not treated
  - 19% of patients experienced differentiation syndrome (all Grades)
- QTc interval prolongation and Guillain-Barre Syndrome occurred in patients treated with TIBSOVO®
- Monitor drug-drug interactions with TIBSOVO®.
- Most frequent serious adverse reactions (≥5%): differentiation syndrome (10%), leukocytosis (10%) and QT prolongation (7%)
- Median duration of exposure: 3.9 months

* The full prescribing information can be found on our website at agios.com.

Clinical Development of IDHm Inhibitors Spans All Treatment Lines to Become Cornerstone of AML Treatment

INTENSIVE CHEMO (IC)
~60-70% of AML Patients

NON-IC TREATMENT
~30-40% of AML Patients

IC INDUCTION

CONSOLIDATION | **TRANSPLANT**

MAINTENANCE

NON-IC TREATMENT

HO150 7+3 PHASE 3 PLANNED

BROAD IST STRATEGY

AGILE ONGOING

BROAD IST STRATEGY

RELAPSED / REFRACTORY TREATMENT

IDHIFA® (enasidenib) tablets 100mg • 50mg **APPROVED**

TIBSOVO® (ivosidenib) tablets **APPROVED**

BROAD IST STRATEGY

Source: SEER. Cancer Stat Facts: AML 2015

Multiple Opportunities Across IDHm Hematologic and Solid Cancers Originating from Agios Research Platform

ACUTE MYELOID LEUKEMIA

IDH2m R/R
IDHIFA® (enasidenib) Approved

IDH1m R/R
TIBSOVO® (ivosidenib) Approved

IDH1m Frontline Non-IC
ivosidenib + Aza Phase 3 (AGILE) Ongoing

IDHm Frontline IC-Eligible
ivo/ena + 7+3 Phase 3 (HO150) Q4 2018 Start

IDHm Frontline Non-IC
ivo/ena + Aza Phase 1/2 Ongoing

IDHm Frontline IC-Eligible
ivo/ena + 7+3 Phase 1b Ongoing

CHOLANGIOCARCINOMA

IDH1m R/R
ivosidenib Phase 3 (ClarIDHY) Ongoing

IDH1m R/R
ivosidenib Phase 1 Enrollment Complete

LOW GRADE GLIOMA

IDH1m
ivosidenib & AG-881 Perioperative Study Ongoing

IDH1m
ivosidenib Phase 1 Enrollment Complete

IDH1m
AG-881 Phase 1 Enrollment Complete

OTHER INDICATIONS

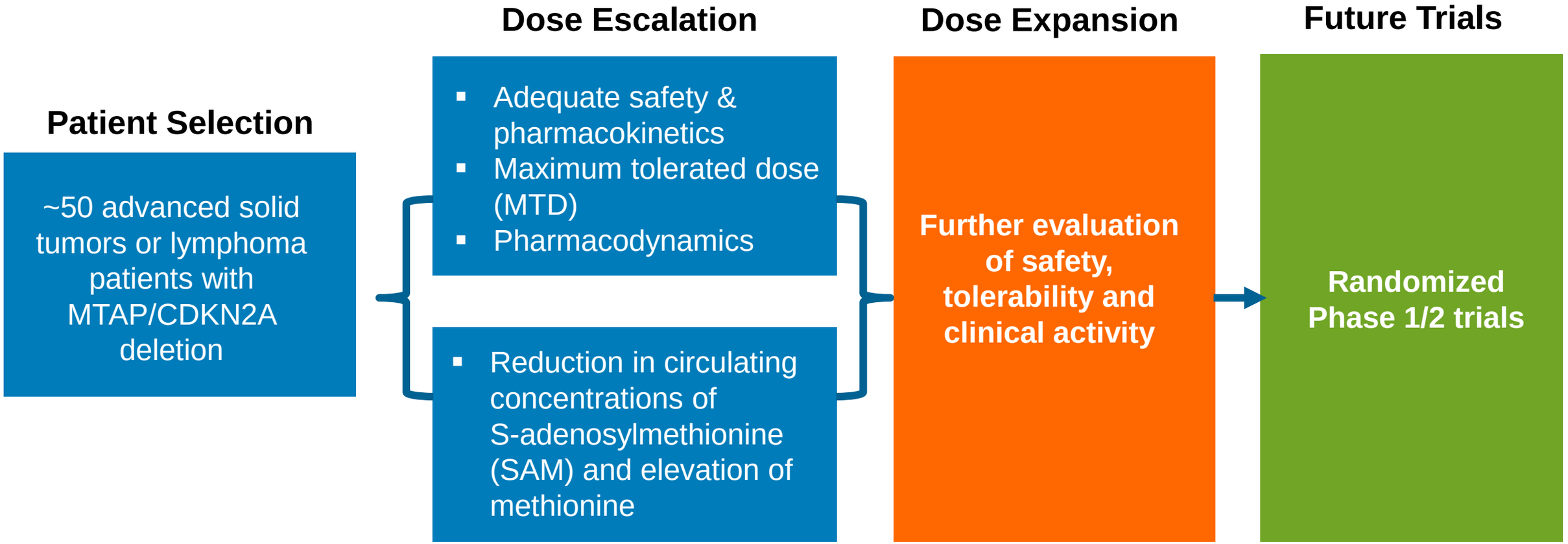
MYELODYSPLASTIC SYNDROMES

IDHm R/R ivosidenib Phase 1 Enrollment Complete

CHONDROSARCOMAS

IDH1m R/R ivosidenib Phase 1 Enrollment Complete

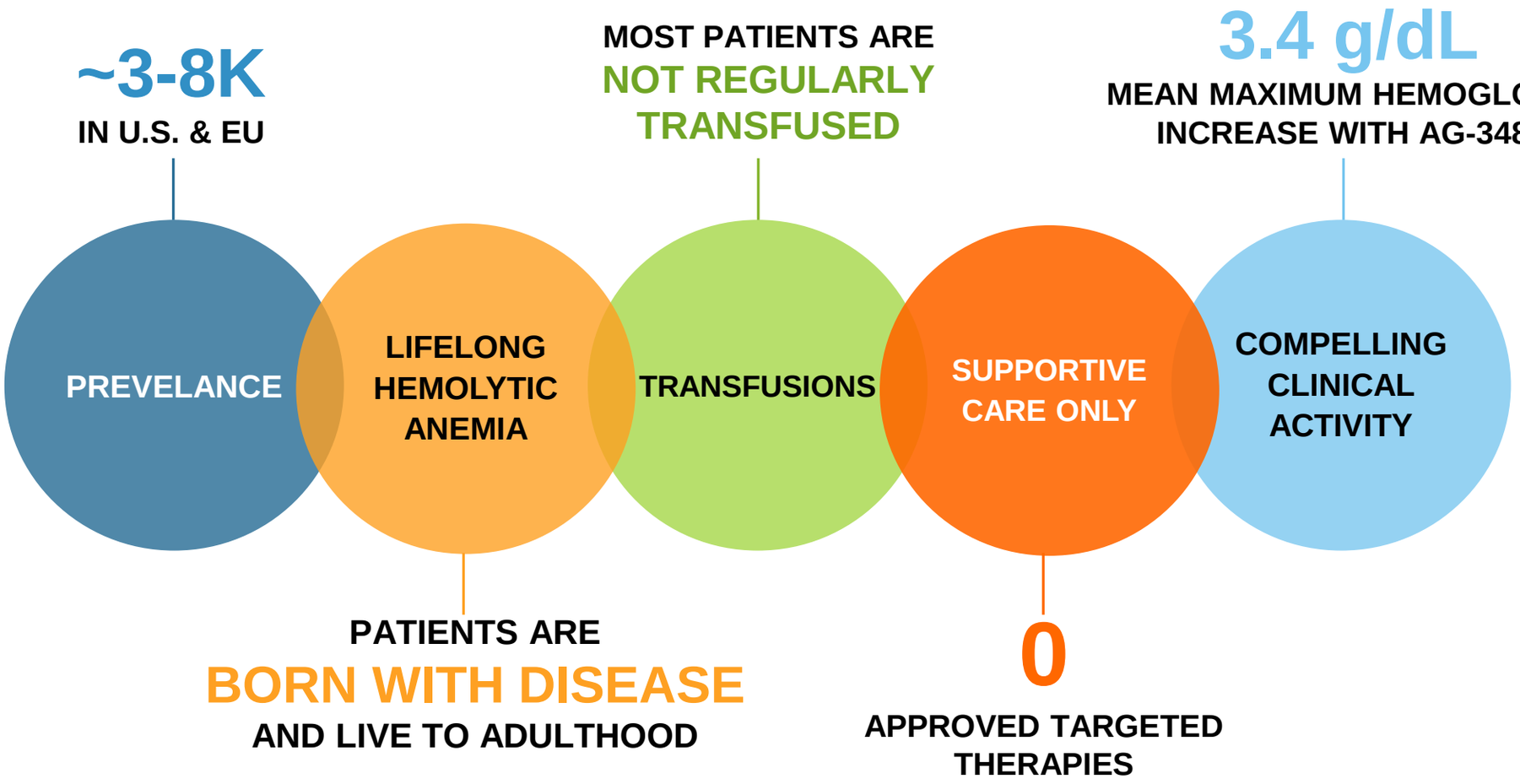
AG-270 First-in-Human Phase 1 Clinical Trial



ClinicalTrials.gov Identifier: NCT03435250

Trial initiated and enrolling patients

Opportunity for Mitapivat (AG-348) to be the First Disease-Modifying Treatment for PK Deficiency

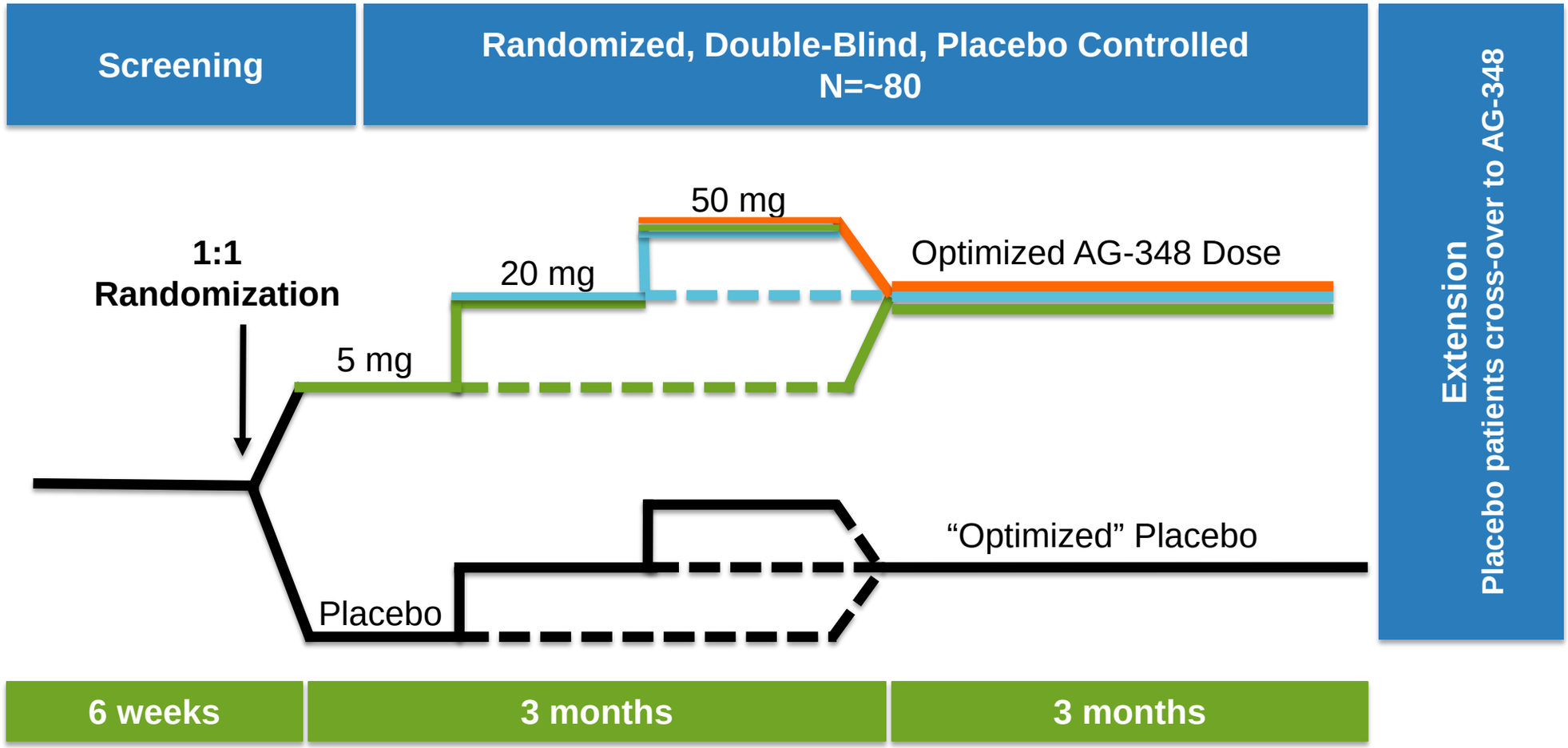


Sources: Estimated prevalence range from ~1:20K to ~1:485K Grace R et al. *Am J Hematol* 2015;90(9):825-30; [1]Mohrenweiser HW *PNAS* 1981;78(8):5046-50; [2]Carey PJ et al. *Blood* 2000;96(12):4005-6; [3]Beutler E & Gelbart T *Blood* 2000;95(11):3585-8; [4]deMedicis et al. *Hum Hered* 1992;42(3):179-83; data presented at ASH 2017

[1]Mean maximum hemoglobin increase of 3.4 g/dL in patients to had a >1.0 g/dL increase in haemoglobin on study

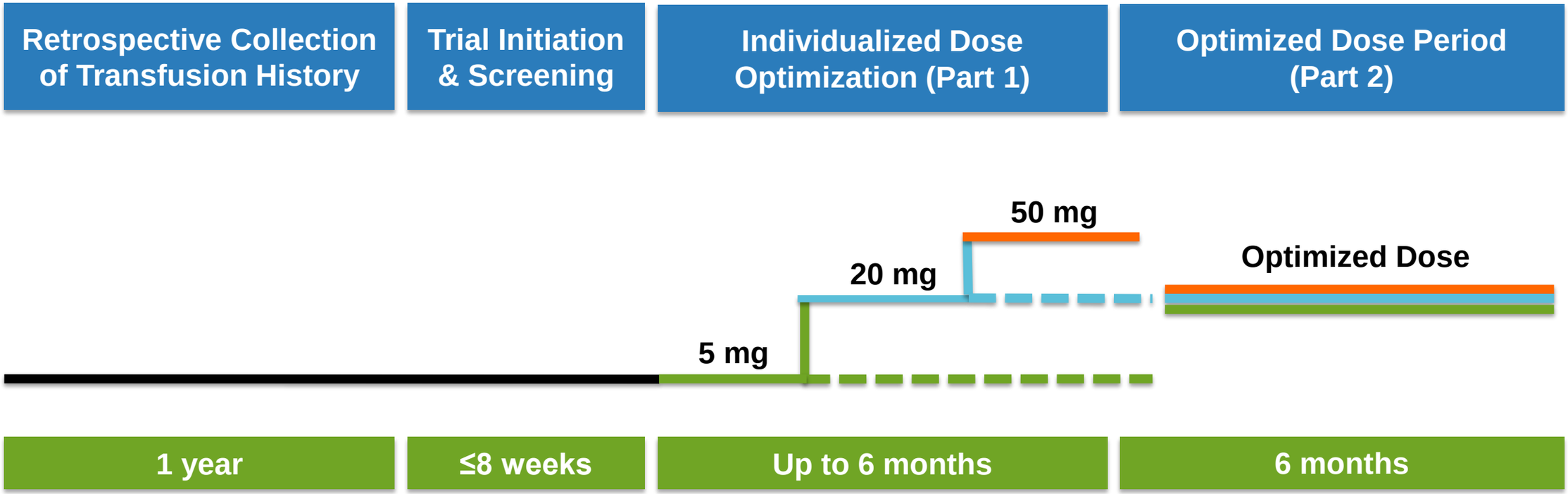
ACTIVATE and ACTIVATE-T initiated

Mitapivat (AG-348) ACTIVATE Trial for Non-Regularly Transfused Patients



Primary Efficacy Endpoint: Proportion of patients who achieve at least a 1.5 g/dL increase in hemoglobin sustained over multiple visits

Mitapivat (AG-348) ACTIVATE-T Trial for Regularly Transfused Patients

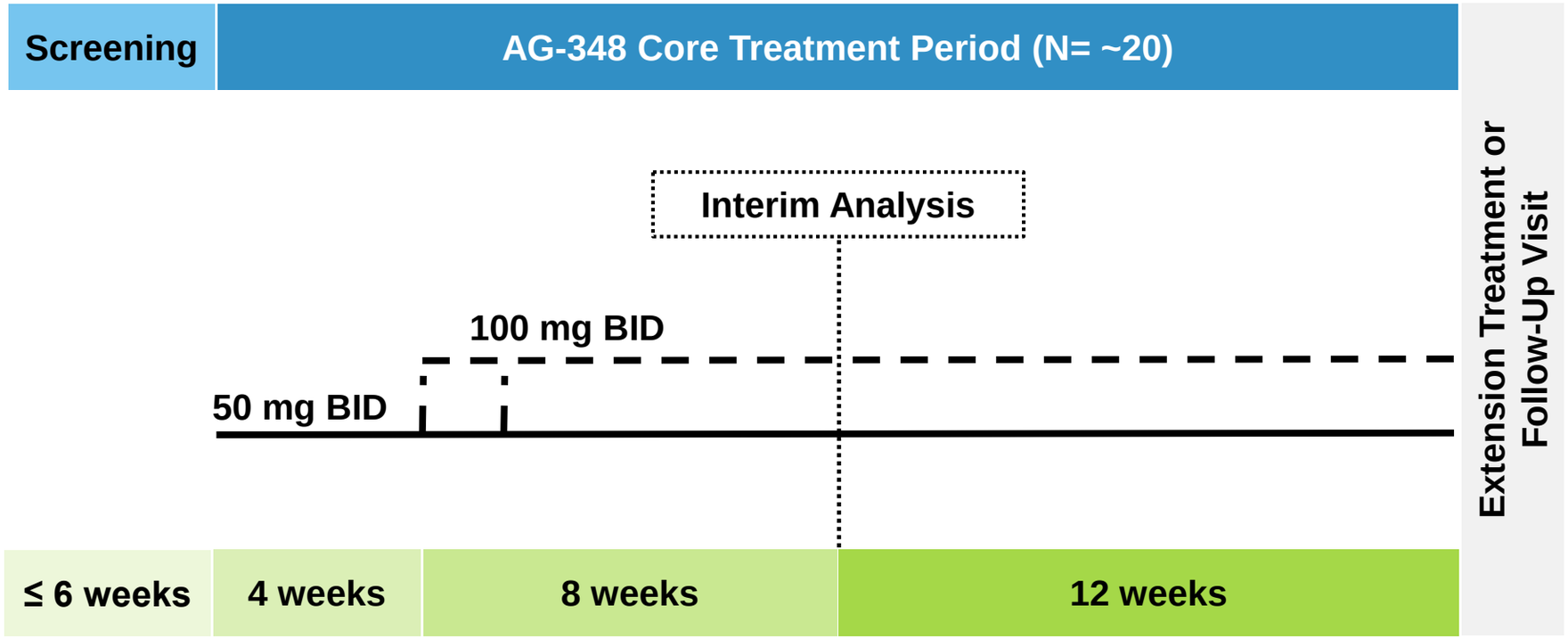


Approximately 20 regularly transfused patients who have required a minimum of 6 transfusions over the year preceding enrollment

Primary Endpoint: Reduction in transfusion burden over a 6 month period compared to the patient's transfusion history

Thalassemia Phase 2 Proof-of-Concept in Non-Transfusion Dependent Adults

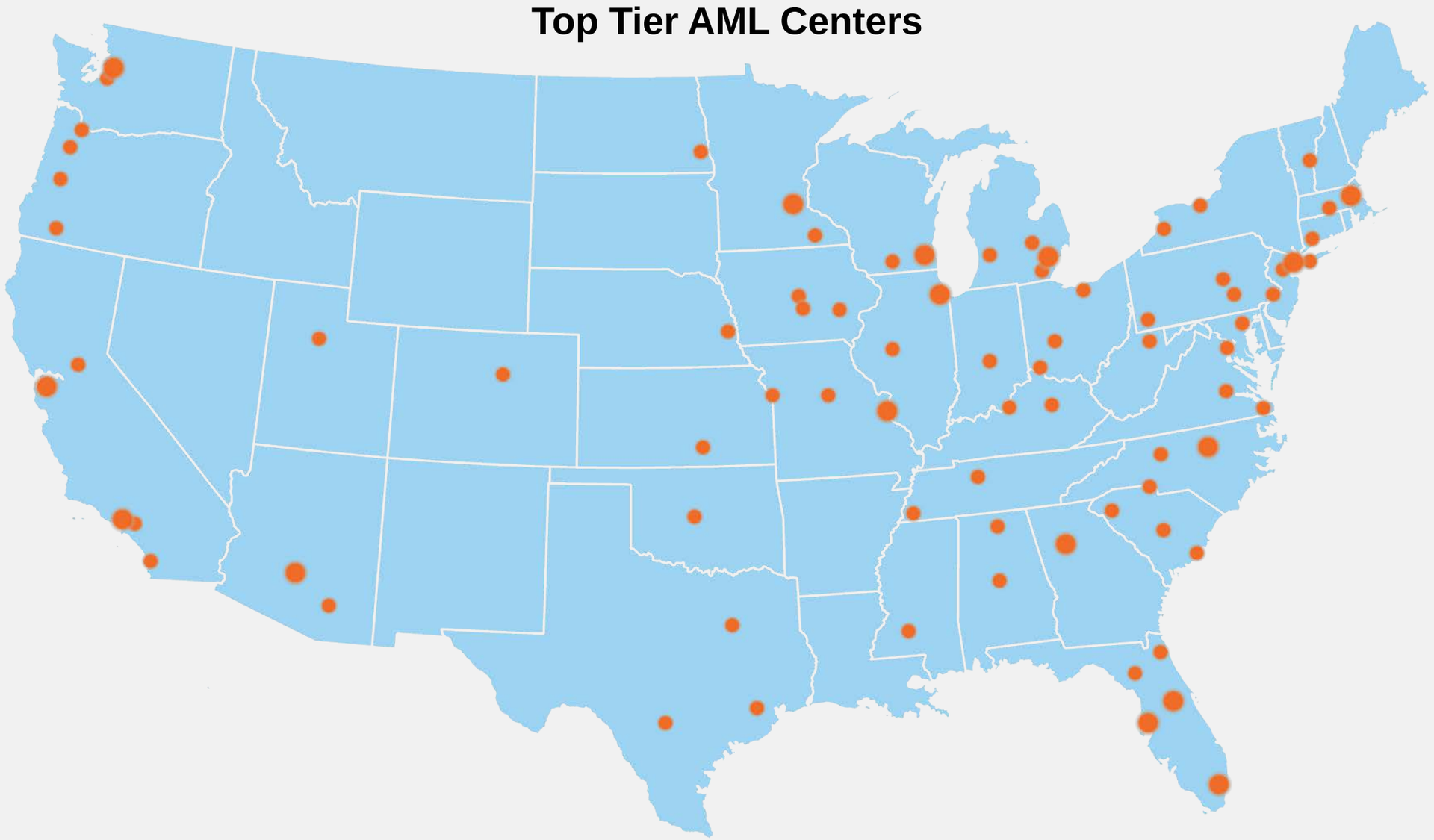
- Open-label trial in ~20 patients with hemoglobin < 9.0.
- Primary endpoint is hemoglobin response, using a definition of 1.0 g/dl over baseline at 12 weeks



TIBSOVO® Commercial Launch

Steve Hoerter, Chief Commercial Officer

Sales Team Deployed to Cover Prescriber Base



Strategic Imperatives for the TIBSOVO® Launch

Physicians test for IDH1m

TIBSOVO® is recognized as the best option for IDH1m+ R/R AML

TIBSOVO® (ivosidenib) tablets

Patients have access to TIBSOVO®

Second Quarter 2018 Financial Results

Andrew Hirsch, Chief Financial Officer

Second Quarter 2018 Financial Results

Balance Sheet	June 30, 2018	December 31, 2017	Variance
Cash, Cash Equivalents and Marketable Securities	$937M	$568M	$369M
Total Assets	$998M	$614M	$384M

Statement of Operations	Three Months Ended June 30, 2018	Three Months Ended June 30, 2017	Variance
Collaboration Revenue	$38.8M	$11.3M	$27.5M
Royalty Revenue	$1.6M	--	$1.6M
Research & Development Expense (1)	$86.7M	$79.8M	$6.9M
General & Administrative Expense	$26.6M	$16.1M	$10.5M

1) The R&D expenses reported for the three months ended June 30, 2017 are reported net of cost reimbursements of $2.5 million, for the three months ended June 30, 2018 cost reimbursements are reflected in Collaboration Revenue.

June 30, 2018 cash balance provides runway through at least the end of 2020

Our Pipeline

CLINICAL PROGRAMS	INDICATION	DRUG DISCOVERY	EARLY STAGE CLINICAL DEVELOPMENT	LATE STAGE CLINICAL DEVELOPMENT	APPROVED	PRIMARY COMMERCIAL RIGHTS
IDHIFA® ***enasidenib*** (IDH2m Inhibitor)	R/R AML				●	agios Celgene Agios U.S. Co-promotion and Royalty
	Frontline AML			●		
TIBSOVO® ***ivosidenib*** (IDH1m Inhibitor)	R/R AML				●	agios
	Frontline AML			●		
	Cholangio			●		
	Glioma		●			
AG-881 (pan-IDHm Inhibitor)	Glioma		●			agios Celgene
mitapivat (PK (R) Activator)	PK Deficiency			●		agios
AG-270 (MAT2A Inhibitor)	MTAP-deleted Tumors		●			agios Celgene
RESEARCH PROGRAMS						
AG-636 (DHODH)		●				agios
CM Research Programs		●				agios
RGD Research Programs		●				agios
Metabolic IO Research Programs		●				agios Celgene

Q&A