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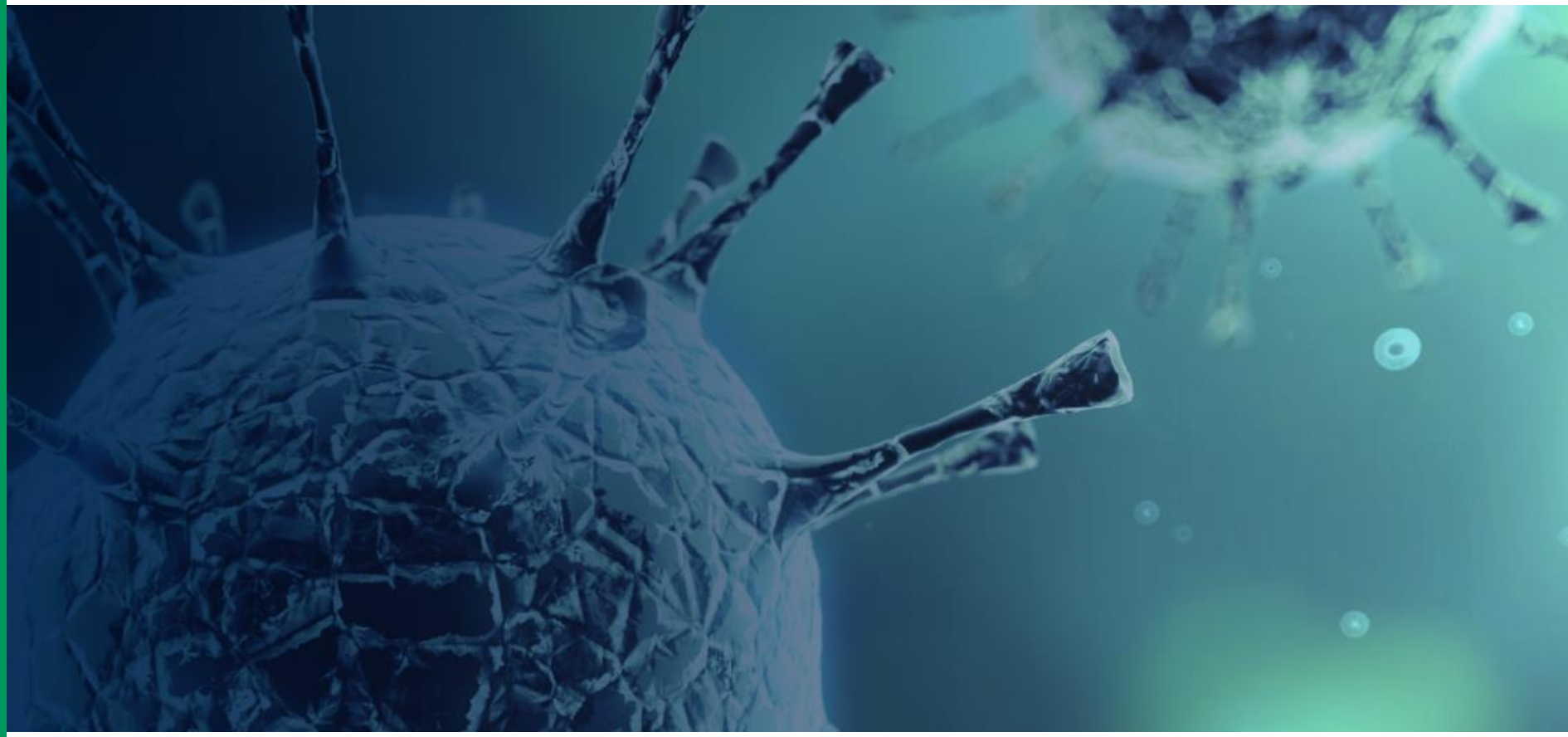

Financial Results and Operational Highlights for Q3 2019

November 7, 2019

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Agenda for today

1. Welcome and Introduction: Dr. Christian Itin, Chairman and CEO
2. Operational Highlights: Dr. Christian Itin
3. Financial Results and Overview: Andrew J. Oakley, Chief Financial Officer
4. Upcoming Milestones and Conclusion: Dr. Christian Itin
5. Q&A: Dr. Christian Itin and Andrew J. Oakley

Operational Highlights

Dr. Christian Itin
Chairman and CEO

Upcoming ASH Meeting Presentations

Data highlights progress of foundational AUTO1 program

- **Adult ALL (AUTO1)** - Saturday December 7, oral presentation
- **Pediatric ALL (AUTO1)** - Saturday December 7, oral presentation
- **Integration Site Analysis (AUTO1) –** Saturday December 7, oral presentation
- **DLBCL (AUTO3)** - Saturday December 7, oral presentation
- **Pediatric ALL (AUTO3)** - Sunday December 8, poster presentation
- **Multiple Myeloma (AUTO2)** - Sunday December 8, poster presentation

Adult Acute Lymphoblastic Leukemia

Adult ALL is a significant commercial opportunity

- Potential market size in adult ALL
  - Up to 8,400 new cases of adult ALL diagnosed yearly worldwide
  - Addressable patient population is projected at 3,000 patients US & EU5
- High unmet medical need
  - Combination chemotherapy enables 90% of adult ALL patients to experience CR, but only 30% to 40% will achieve long-term remission
  - Median overall survival is < 1 year in r/r ALL
- No CAR T therapy approved in adult ALL
- Only approved redirected T cell therapy is blinatumomab
- AUTO1 granted FDA orphan drug designation for ALL

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Sources: Prevalence calculated using SEER and EUCAN and extrapolated using IMS; American Cancer Society

AUTO1 in Adult ALL: Durable remissions observed

AUTO1 may be best-in-class for Adult ALL

- As of July 24, 2019:
  - 10 of 12 (83%) evaluable patients achieved MRD negative CR at 1 month
  - 7 of 12 (58%) evaluable patients remain on study in flow/molecular MRD negative remission with a median follow-up of 9 months
- 6 patients had ≥ 50% BM blasts prior to lympho-depletion (CRS 'high risk')
- No high-grade CRS, 1 of 13 patients had Grade 3 neurotoxicity (dysphasia), resolved swiftly with steroids
- Oral presentation at ASH: Additional follow-up data, including additional safety and efficacy will be presented

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Data as of July 24, 2019

Roddie, C. et al. A novel fast off CD19CAR delivers durable remissions and prolonged CAR T cell persistence with low CRS or neurotoxicity in adult ALL [abstract]. In: 61st American Society of Hematology (ASH) Annual Meeting and Exposition; 2019 December 7-10; Orlando, FL; Abstract nr 131086.

Comparison of AUTO1 vs. Kymriah® and Blincyto®

AUTO1 may be best-in-class, redirected T cell therapy in ALL

	Pediatric ALL		Adult ALL	
	[1]Kymriah®-pALL	[2]AUTO1 - pALL	[3]AUTO1 aALL	[4]Blinatumomab
Patient Numbers	75	14	13	271
CR Rate	81%	86%	83%*	42%
EFS	EFS 12m: 50% (95% CI, 35 to 64)	EFS 12m: 52% (95% CI, 16 to 72)	TBD	EFS 6m: 31%
CRS ≥ Grade 3	47%	0%	0%	3%
Neurotox ≥ Grade 3	13%	7%	8%	13%

* In 10 of 12 evaluable patients at 1 month.

1. Maude et al., NEJM 2018
2. Ghorasian et al., ASH 2019 (abstract)
3. Roddie et al., ASH 2019 (abstract)
4. Kantarjian et al., 2017

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AUTO1 in aALL - Summary and next steps

First Autolus program to move to a registration trial

- Potential to have best-in-class profile
- Favorable safety profile and high level of clinical activity
  - Data suggest AUTO1 may be twice as active as current standard of care, blinatumomab, with comparable safety profile
- Pivotal study:
  - Feedback from FDA and EMA
  - CTA to be filed in UK in Nov, US IND to be filed in Q1
  - Single arm study with approx. 100 patients
- Primary endpoint is overall complete response rate (CR/CRi)
- Secondary endpoints include:
  - MRD-negative CR and EFS
- BLA filing targeted for H2 2021

Pediatric ALL – Focus on AUTO1/AUTO1NG

AUTO3 data support dual antigen targeting hypothesis

- Development in pediatric ALL will focus on AUTO1 and AUTO1NG
- Pediatric program (PIP) with AUTO1
- Dual-targeting AUTO1NG with CD19 CAR of AUTO1 and a novel CD22 CAR expected to enter first clinical trial in H1 2020

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Diffuse Large B Cell Lymphoma (DLBCL)

DLBCL is a large commercial opportunity

- Potential market size in DLBCL
  - Approx. 24,000 patients diagnosed in the US every year*
  - Addressable patient population projected at 10,000 patients for US & EU5 combined
- Aggressive and rapidly advancing cancer
  - Most common type of Non-Hodgkin Lymphoma
  - High dose chemotherapy + MAB leads to remission in about 50-60% of patients
- Two Approved CAR T products (Yescarta and Kymriah)

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*Source: American Cancer Society

DLBCL – AUTO3

Program on track for a mid 2020 decision point

- Interim Phase 1 data planned to be presented at ASH 2019 in December, including patients at the 450 mm dose level
- First US patient consented and currently being manufactured at Cell and Gene Therapy Catapult at Stevenage in the UK
- Decision for triggering Phase 2 initiation planned for mid 2020
- AUTO3NG - next generation product for life cycle management

Multiple Myeloma

Transitioning to next generation CAR in 2020

- AUTO2 is not differentiated from more advanced competitor programs
- Phase 1 data will be presented at ASH
- Next generation program to enter into the clinic in H2 2020
  - Addresses need for increased persistence and tumor defense mechanisms
  - Incorporates additional programming modules
  - Study to be conducted in collaboration with University College London
- Phase 1 data expected in H2 2021

T Cell Lymphoma

Positioned for value inflection in 2020

- Patient enrolment in AUTO 4 Phase 1 study will resume in Q1 2020
- Expect to present initial AUTO4 Phase 1 data H2 2020
- AUTO5 Phase 1 decision based on AUTO4 data
- Companion diagnostic development on track

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Solid tumor programs–AUTO6NG (GD2+ solid tumors)

Positioned for additional value inflection in 2020

- Plan to commence Phase 1 H2 2020
- Encouraging pre-clinical data on three T cell programming modules to be presented at SITC 2019
  - Constitutively signaling IL7 cytokine receptor (IL7R_CCR module) is shown to enhance persistence
  - Dominant negative TGFbRII (dnTGFbRII module) is shown to block TGFβ signaling
  - Truncated SHP2 (dSHP2 module) is shown to confer resistance to inhibitory signals such as those from PD1
  - I.V. delivery exhibited potent anti-tumor activity and extended survival in-vivo

Corporate Update

UK clinical manufacturing site full operational

- Manufacturing update
  - Catapult fully operational for European and US patients
  - First US patient enrolled, manufacturing ongoing
- Significant change in shareholder base
  - In September, PPF Group announced that they had acquired, mainly from Woodford Investment Management, an approximate 19% holding of Autolus
  - Control of all the remaining shares of Autolus held by Woodford Investment Management are in the process of being transferred to Schroder UK Public Private Trust plc
- Changes in operational management reflect evolving organisational need
  - David Brochu appointed as head of Product Delivery as we transition from Phase 1 to registration stage
  - Vishal Mehta appointed as head of Clinical Operations as we transition from UK academic setting to managing global registrational studies

Financial Results

Andrew J. Oakley
Chief Financial Officer

Third quarter 2019 financial summary

USD m	3Q19	3Q18	Variance
Grant Income	0.3	0.3	(0.0)
R&D	(27.3)	(10.1)	(17.2)
G&A	(8.6)	(7.3)	(1.3)
Total Operating Expenses, net.	(35.6)	(17.1)	(18.5)
Other Income	3.8	2.0	1.8
Tax Benefit	4.6	2.2	2.4
Net Loss	**(27.2)**	**(12.9)**	**(14.3)**

USD m	Sept. 30 2019	Sept. 30 2018	Variance
Cash Balance	**229.4**	**247.1**	**(17.7)**

> Cash runway expected into second half of 2021

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Upcoming Milestones and Conclusion

Dr. Christian Itin
CEO and Chairman

Newsflow expected through 2020

Product	Indication	Target	Event
B Cell Malignancies			
AUTO1	Pediatric ALL	CD19	• Ph 1 data 4Q 2019
AUTO1	Adult ALL	CD19	• Ph 1 (ALLCAR19) data 4Q 2019 • Start pivotal program H1 2020
AUTO1NG	Pediatric ALL	CD19 & 22	• Start Ph 1 H1 2020
AUTO3	DLBCL	CD19 & 22	• Ph 1 interim data 4Q 2019 • Decision on Ph 2 transition mid 2020
AUTO3NG	DLBCL	CD19 & 22	• Start Ph 1 H2 2020
Multiple Myeloma			
NG program	Multiple Myeloma	Undisclosed	• Start Ph 1 study H2 2020
T Cell Lymphoma			
AUTO4	TRBC1+ Peripheral TCL	TRBC1	• Ph 1 interim data H2 2020
GD2+ Tumors			
AUTO6NG	Neuroblastoma; Melanoma; Osteosarcoma; SCLC	GD2	• Non-clinical data 4Q 2019 • Start Ph 1 H2 2020

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Key Q3 Messages

- AUTO1:
  - First Autolus program to move into a pivotal program - Adult ALL
  - FDA granted orphan drug designation for treatment of ALL
  - Opportunity for best in class CD19 CAR T
  - Pediatric ALL: moving forward with AUTO1/AUTO1NG
- AUTO3:
  - Focus on DLBCL, Phase 2 decision point mid-2020
  - AUTO3NG opportunity as next generation product
- Opportunity for additional value steps in 2020 from multiple myeloma, T cell lymphoma and GD2+ tumor programs
- Management changes strengthen operational capability
- Company has a strong balance sheet with $229M in cash
- Key data releases this year at SITC and ASH

Q&A

Dr Christian Itin (Chairman and CEO)
Andrew Oakley (CFO)

Thank you.

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