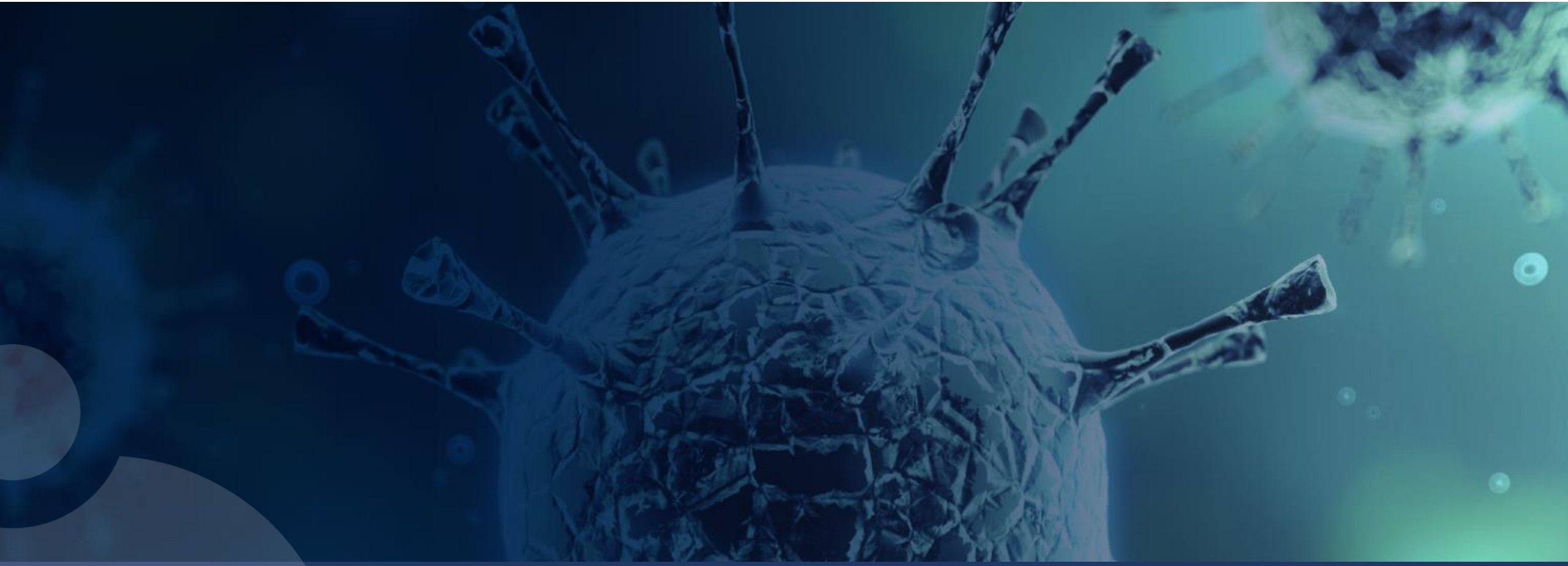
Autolus

Nasdaq: AUTL



First Quarter 2021 Financial Results and Operational Progress

May 6, 2021

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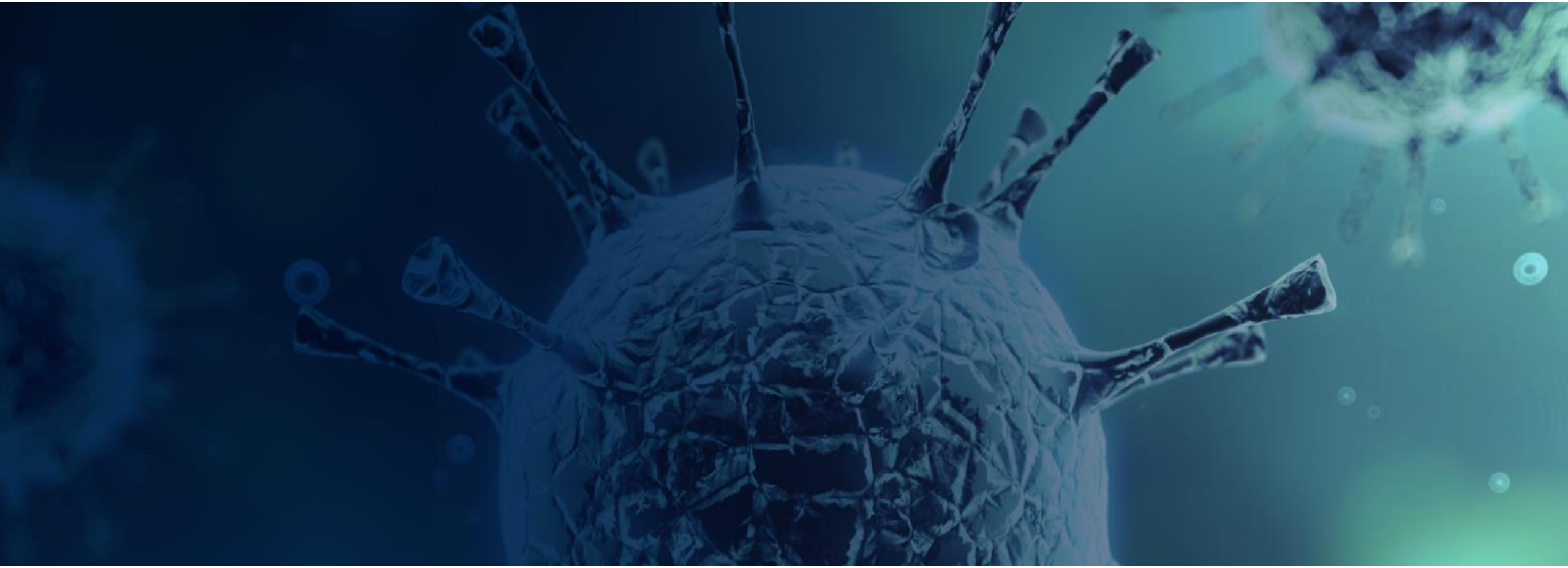
Agenda

- Welcome and introduction: Dr. Christian Itin, CEO
- Operational Highlights: Dr. Christian Itin
- Financial Results: Andrew J. Oakley, CFO
- Upcoming Milestones and Conclusion: Dr. Christian Itin
- Q&A: Dr. Christian Itin and Andrew J. Oakley



Operational Highlights

Dr. Christian Itin – CEO

Pipeline update– first quarter 2021

AUTO1 potential pivotal program progressing on track, with data planned in 2022

- AUTO1 (Obe-Cel) in adult ALL
  - The INN name, obecabtagene autoleucel, or obe-cel was published
  - Received PRIority MEdicines designation from the European Medicine's Agency (EMEA)
  - Potential pivotal program, AUTO1-AL1 (FELIX study), remains on track with data expected in 2022
- AUTO1 in Non-Hodgkin Lymphoma (NHL) and chronic lymphocytic leukemia (CLL)
  - Exploratory cohorts are progressing and Autolus will present updated data at the European Hematology Association (EHA) congress in June 2021
- AUTO1/CD22
  - Pediatric ALL—AUTO1/22 Phase 1 study started in Dec 2020, first data expected for ASH in Q4 2021
- AUTO4 in Peripheral T Cell Lymphoma
  - Received innovative licensing and access pathway (ILAP) designation from the UK Medicines and Healthcare products Regulatory Agency (MHRA) potentially accelerating regulatory review
- Partnerable COVID program
  - Research organization has leveraged expertise in binder technology to develop a decoy receptor strategy for neutralisation of SARS-COV-2 – intention to partner to progress into the clinic

Corporate update – first quarter 2021

Progress made on Capitalizing the company

- Company sold an aggregate of 1.7 million ADSs in January 2021 under its Open Market Sales Agreement with Jefferies LLC, for net proceeds of approx. $15.3 m
- Closed a public offering in February 2021, raising net proceeds, after underwriting discounts and commissions, of $106.9 m
- Company to prioritize obe-cel and to partner AUTO3 alongside a restructuring program reducing headcount by approximately 20 percent as well as it's infrastructure footprint. The restructuring program is now complete
- Announced intention to establish global manufacturing launch capacity in the UK near it's existing clinical manufacturing facility, leveraging the expertise and skill of its existing U.K.-based employees resulting in a less capital-intensive commercial manufacturing platform
- Company's lease on a manufacturing facility in Rockville, Maryland was mutually terminated resulting in a cash payment to Autolus of $2.0 m

AUTO1 has potential as a standalone therapy

A cross study comparison of AUTO1 vs current standard of care

	AUTO1[1]	Standard of Care	
	All patients	Blinatumomab[2]	Inotuzumab[3]
Patient Numbers	19	271	218
CR/ CRi Rate	84%	44%	80.7%
EFS 6m ***(EFS 12m)***	69% ***(52%)***	31%	mPFS 5m
CRS ≥ Grade 3†	0%	3%	0%
Neurotox ≥ Grade 3†	15%*	13%	0%
Other notable toxicities			14% Hepatic VoD

- Observed in patients with > 50% tumor burden

1. Roddie et al., ASH 2020

2. Kantarjian et al., 2017/ USPI (product label)

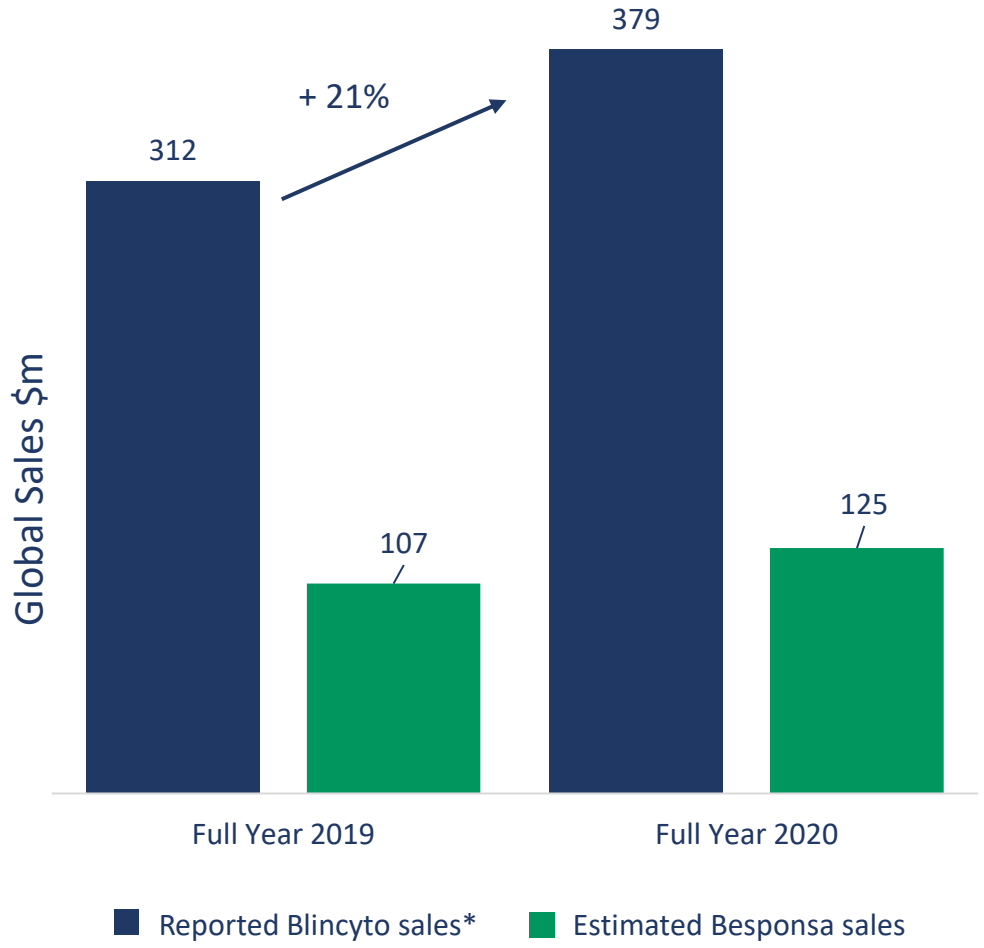
3. Kantarjian et al., 2016/ USPI (product label)

†20 patients evaluable for safety

- Approximately 50% of blinatumomab and inotuzumab patients received subsequent HSCT
- Veno-Occlusive Disease (VoD) during treatment and following subsequent HSCT, with the latter causing a higher post-HSCT non-relapse mortality rate, has limited inotuzumab uptake

AUTO1 could launch into an expanding market

Benefitting from a potentially superior clinical profile



*As per Amgen quarterly SEC filings

- Blincyto sales price estimated to be $178k± (based on 2 cycles) resulting in approx. 2,100 commercial patients (of which approx. 85% are >18 years **)
- Growth attributed by Amgen* to broader uptake and expansion in community settings, continued strong growth at 29% y-o-y for Q4
- Kymriah is priced at $475k in pediatric ALL. Breyanzi (lisocabtagene maraleucel) is priced at $410k in DLBCL±±.
- Breyanzi and other CAR T cell therapies are expanding delivery center footprint
- Tecartus (brexucabtagene autoleucel) is expected to establish CAR T use in adult ALL
- AUTO1 expected to have a superior clinical profile
  - Has potential to be the only curative therapy with tolerability profile to take advantage of expanding delivery footprint

** Komodo Health 2015 – 2020
± https://www.medscape.com/viewarticle/836879
± ± Bristol Myers finally wins FDA approval for cancer cell therapy | BioPharma Dive

Capitalizing on the unique profile of AUTO1 in adult ALL

Exploration of AUTO1 activity in additional B-Cell malignancies

PRODUCT	INDICATION	TARGET	PHASE 1	PHASE 1b/2
AUTO1	Adult ALL	CD19	**ALLCAR19**	**FELIX (AUTO1-AL1)**
AUTO1	iNHL & CLL	CD19	**ALLCAR19 ext.**	
AUTO1	Primary CNS Lymphoma*	CD19	**CAROUSEL**	
AUTO1/22	Pediatric ALL	CD19 & CD22	**CARPALL ext.**	

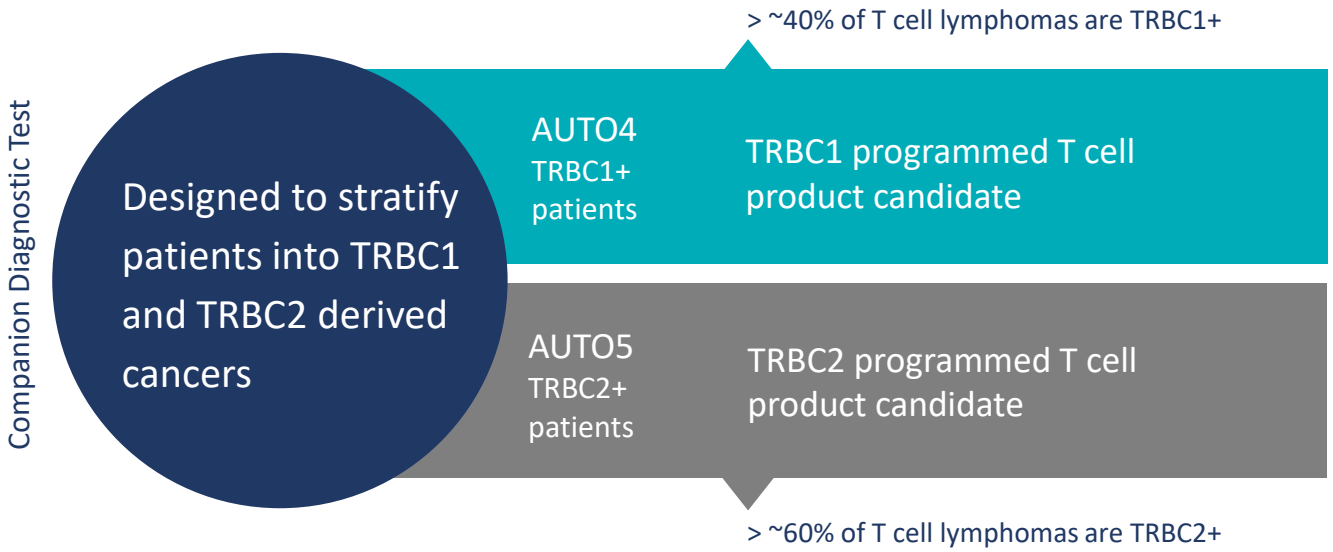
OPPORTUNITY TO PURSUE IN EARLIER LINES OF THERAPY AND INDICATIONS OF ADULT ALL

*Primary CNS lymphoma annual incidence approx.1400 cases in the US. Reference: Keva Green; Jeffery P. Hogg https://www.ncbi.nlm.nih.gov/books/NBK545145/.

T Cell Lymphoma

No standard of care after first relapse and no T cell therapy approved

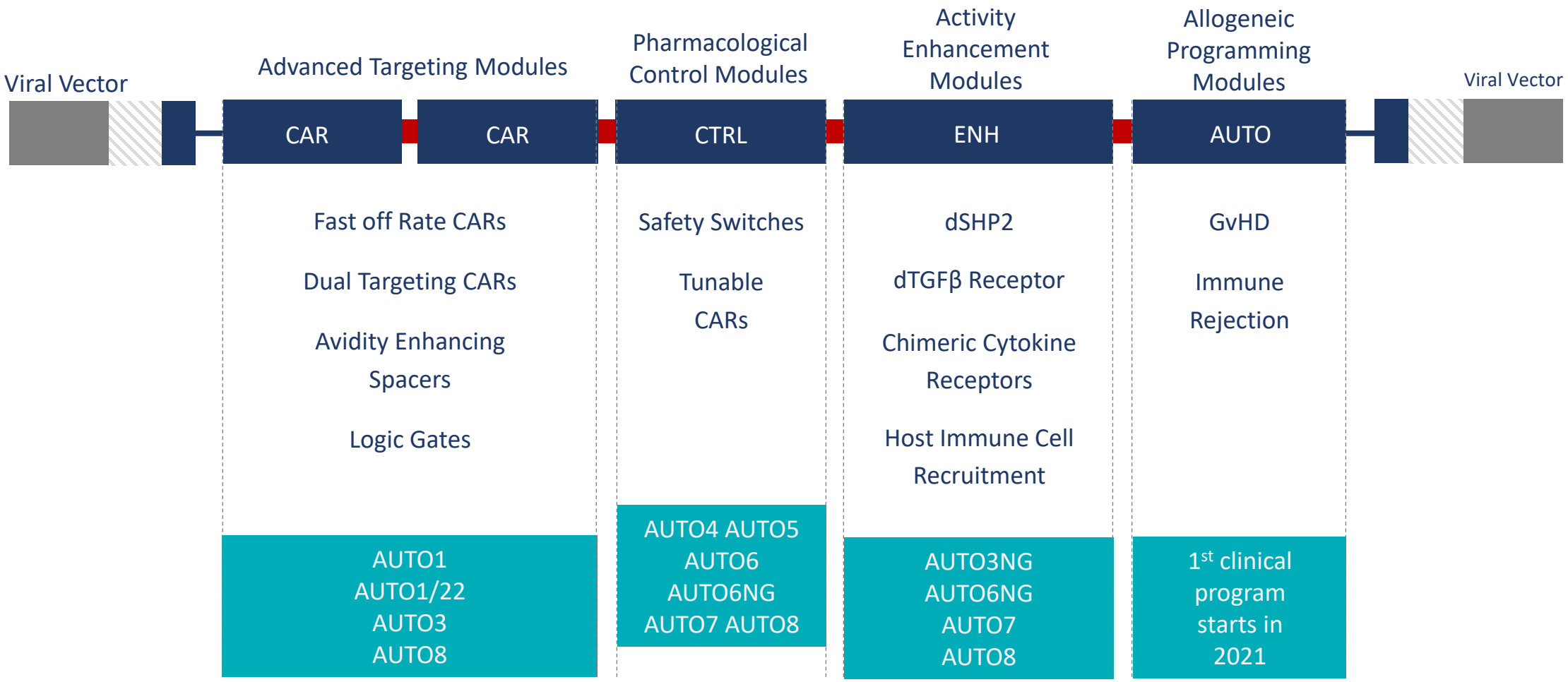
AUTOLUS USES THREE KEY ELEMENTS TO ADDRESS T CELL LYMPHOMAS—AUTO4, AUTO5 AND A COMPANION DIAGNOSTIC TEST



- T cell lymphoma is an aggressive disease with a very poor prognosis for patients
- Median 5 yrs OS: 32%
- Standard of care is variable and often based on high-dose chemotherapy and stem cell transplants
- A large portion of T cell lymphoma patients are refractory to or relapse following treatment with standard therapies
- T cell lymphomas have not, so far, benefited from advances in immunotherapeutic approaches
- AUTO4 Phase 1 interim data expected in 2021
- AUTO5 to enter Phase 1 study in H2 2021

A broad toolkit which is core to our strategy of modular innovation

Advanced T cell programming



Broad pipeline of next generation programs

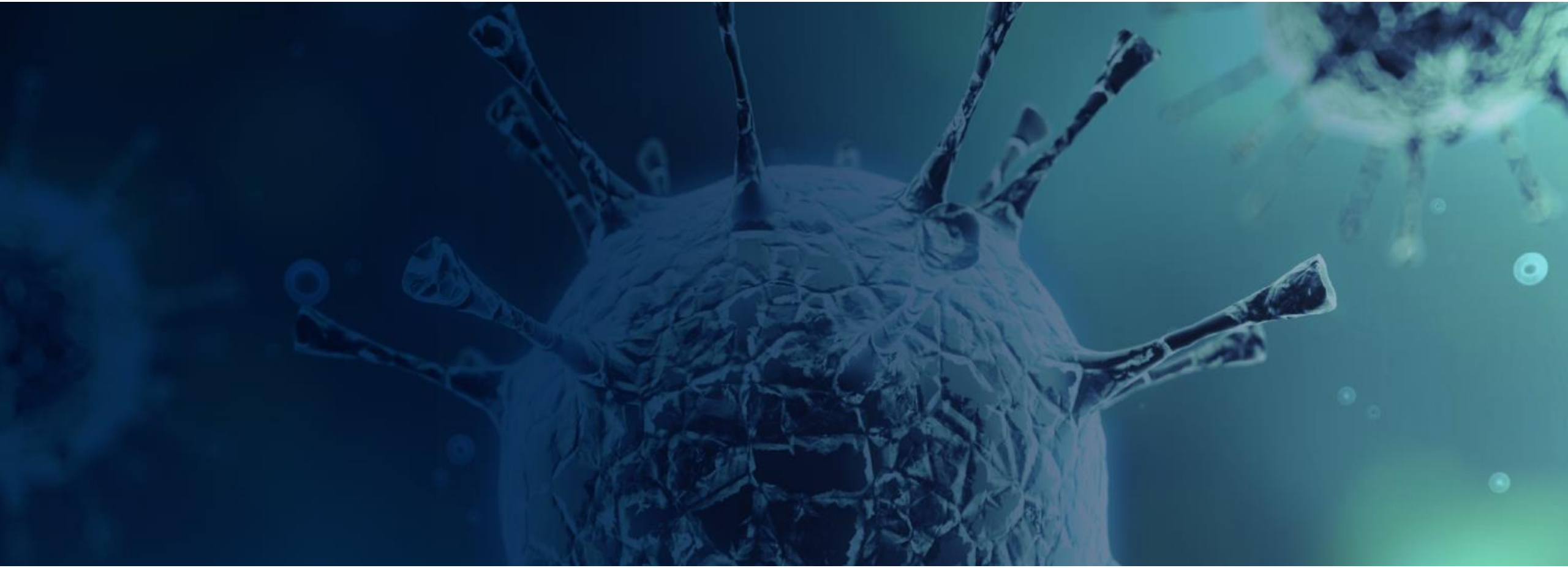
Designed to address limitations of current T cell therapies

PRODUCT	INDICATION	TARGET	PRECLINICAL	PHASE 1*
AUTO1/22	Pediatric ALL	CD19 & CD22		Started Q4 2020
AUTO5	TRBC2+ Peripheral TCL	TRBC2		H2 2021
AUTO6NG	Neuroblastoma; Melanoma; Osteosarcoma; SCLC	GD2		H2 2021
AUTO7	Prostate Cancer	PSMA		H1 2022
AUTO8	Multiple Myeloma	BCMA & CAR X		mid 2021

B Cell Malignancies T Cell Lymphoma GD2+ Tumors Prostate Cancer Multiple Myeloma

*Planned Trial Initiations

NG = Next Generation, SCLC = Small Cell Lung Cancer



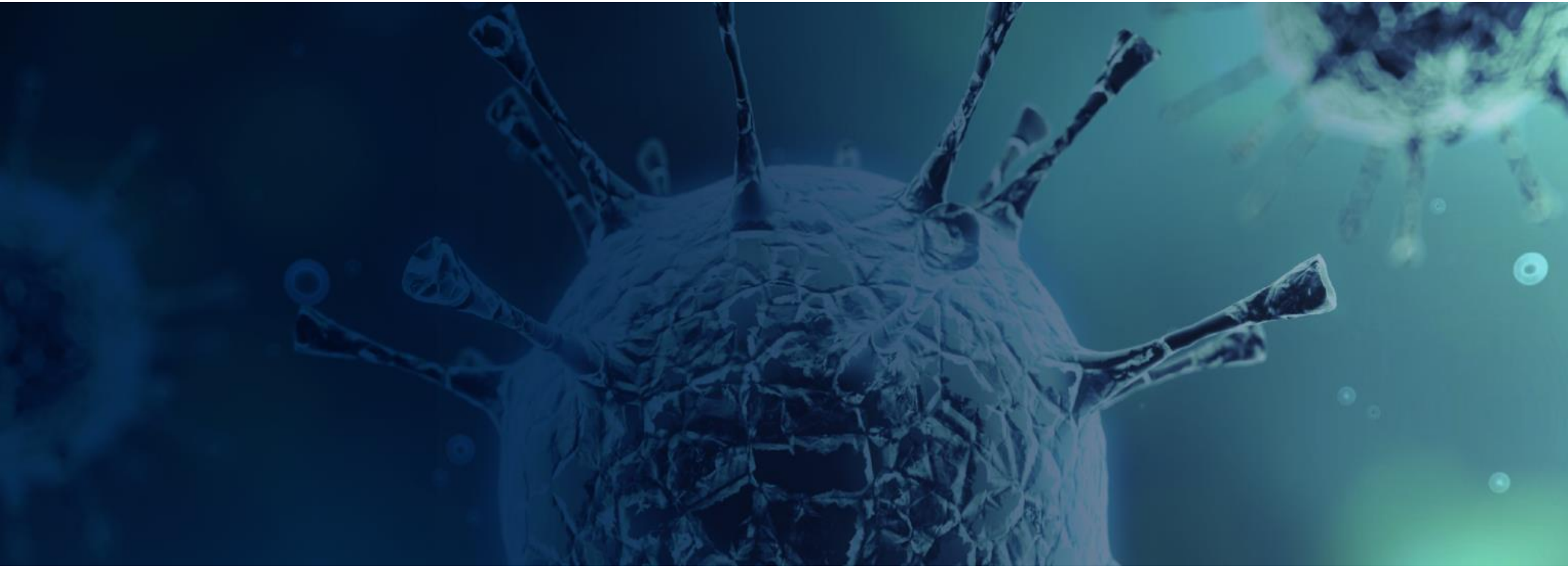
Financial Results

Andrew J. Oakley - CFO

Financial summary

USD m	1Q 2020	1Q 2021	Variance
Grant Income	0.3	0.3	(0.0)
R&D	(31.3)	(30.7)	0.6
G&A	(7.6)	(8.7)	(1.1)
Loss on Disposal of Leasehold Improvements	-	(0.7)	(0.7)
Net Total Operating Expense	(38.6)	(39.9)	(1.3)
Interest Income	0.5	-	(0.5)
Other Income	4.5	0.8	(3.7)
Tax Benefit	3.7	5.7	2.0
Net Loss	(29.9)	(33.3)	(3.4)
Cash Balance	243.3	239.0	(4.3)

Cash runway into the first half of 2023

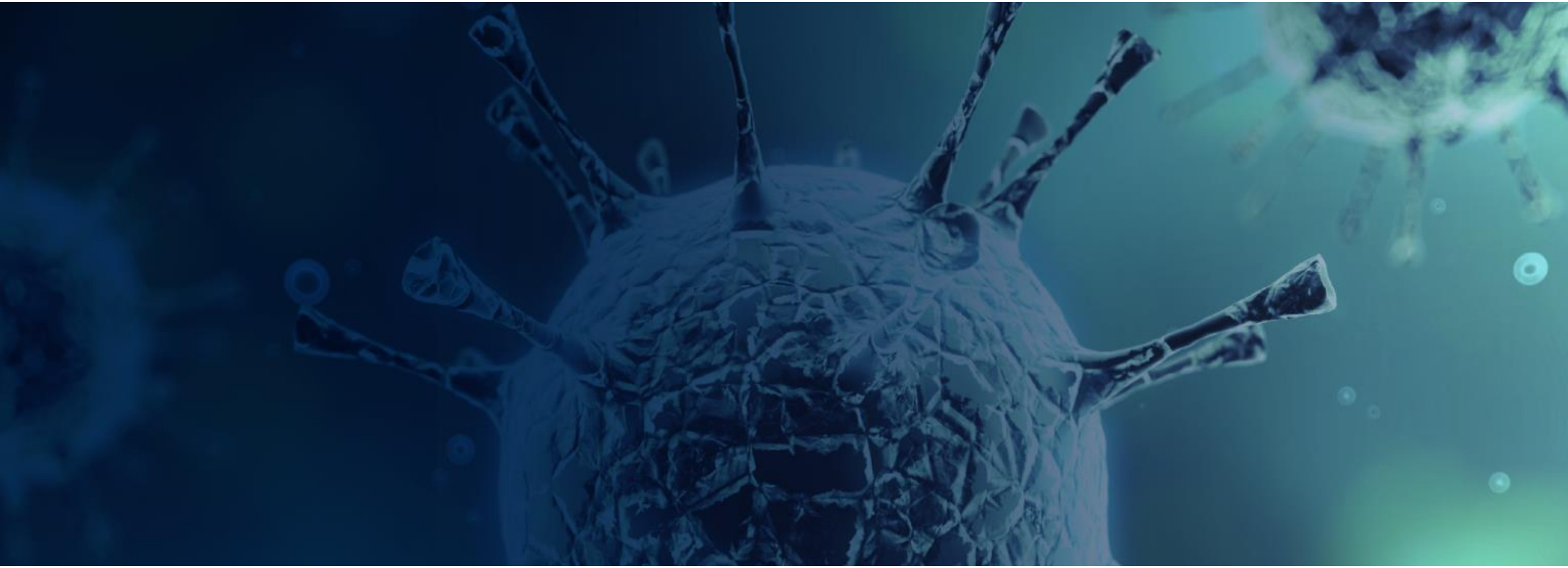


Upcoming Milestones and Conclusions

Dr. Christian Itin – CEO

Autolus poised for potential value inflection

- AUTO1 and AUTO1/22
  - Currently enrolling Autolus' first Phase 1b/2 potential pivotal program (FELIX) in adult ALL. Data expected in 2022
  - Pediatric ALL—AUTO1/22 Phase 1 study started in Dec 2020, first data expected for ASH in Q4 2021
  - ALLCAR study extension in iNHL and CLL ongoing, data updates to be released at EHA and at ASH in 2021
  - Opportunity to develop AUTO1 in Primary CNS Lymphoma, CAROUSEL study start planned for H1 2021
- AUTO3
  - Company plans to seek a partner for the AUTO3 program, prior to further development
- AUTO4
  - Phase 1 interim data expected at ASH in 2021
- Multiple Next Generation development candidates entering clinical development in 2021
- Cash balance at Mar 31, 2021, was approx. $239 million, including January proceeds under the Open Market Sales Agreement and February 2021 raise, which provides a cash runway in the first half 2023



Q&A