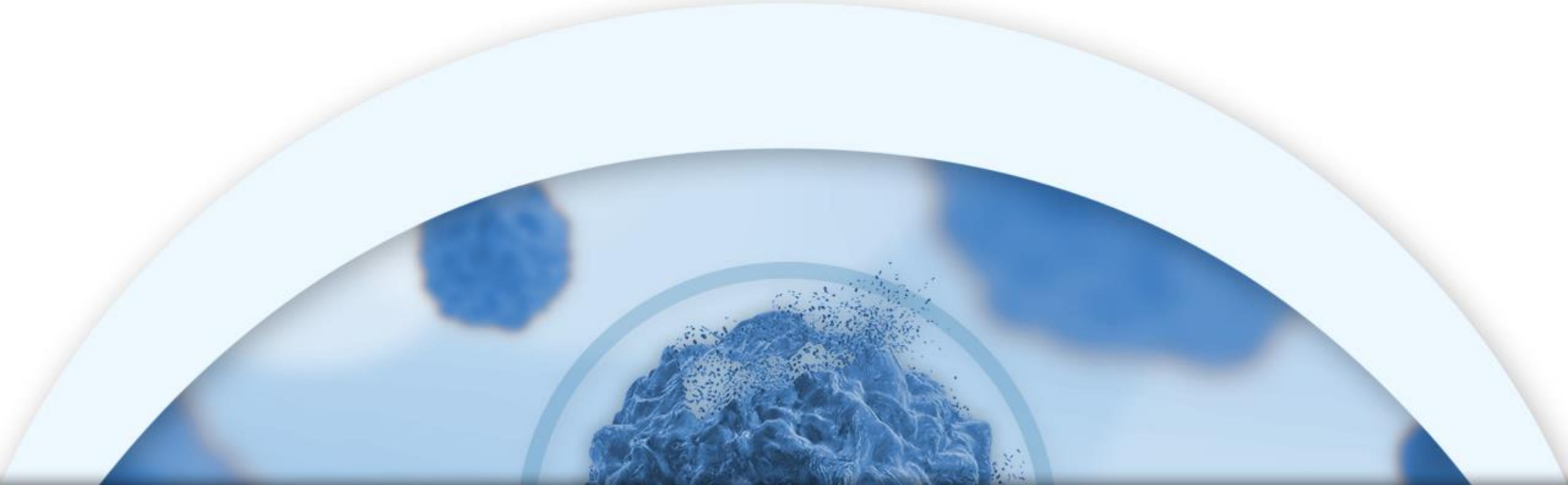
Corporate Presentation

NASDAQ: CRIS

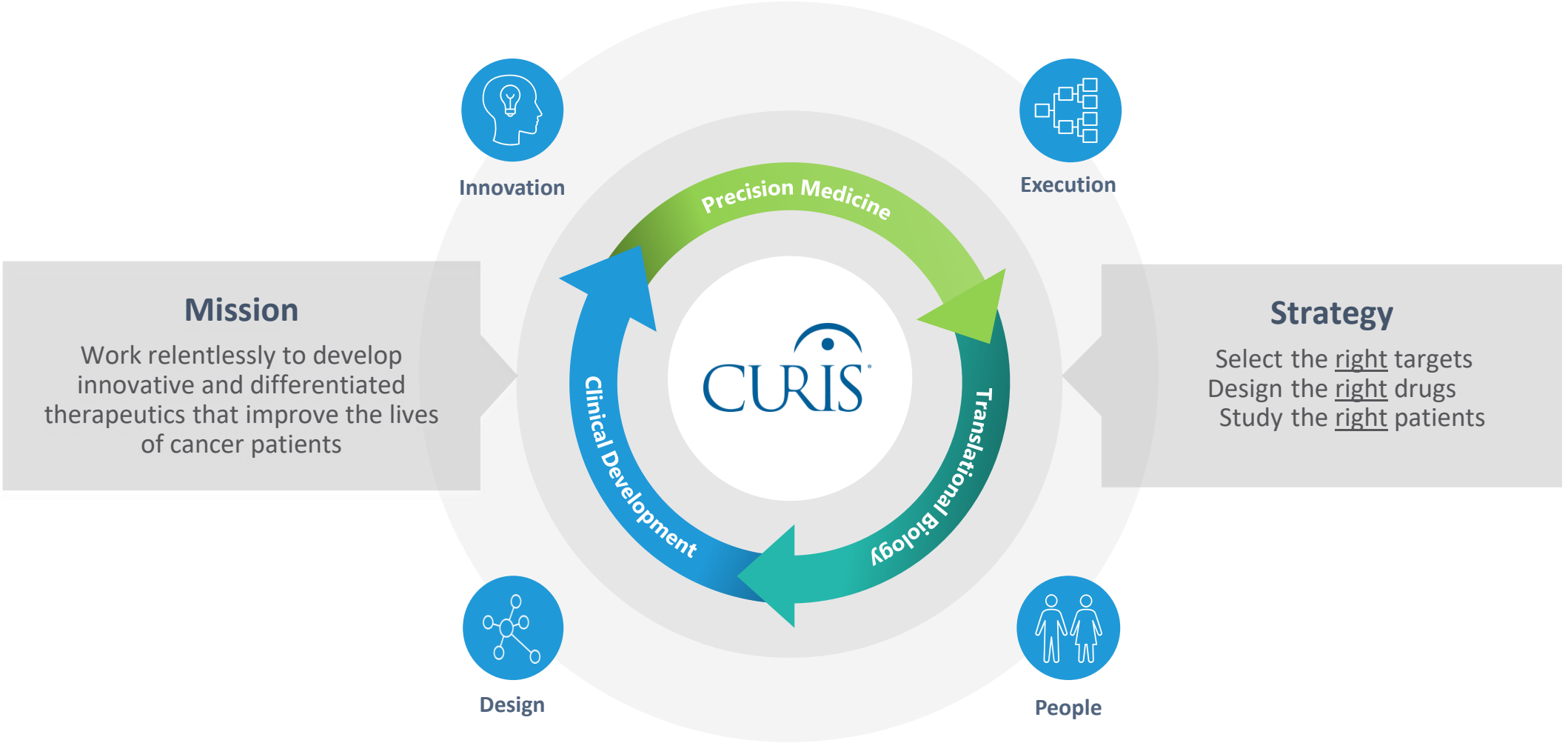


Cautionary Note Regarding Forward Looking Statements

This presentation contains certain forward-looking statements about Curis, Inc. (“we,” “us,” or the “Company”) within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. Words such as “expect(s),” “believe(s),” “will,” “may,” “anticipate(s),” “focus(es),” “plans,” “mission,” “strategy,” “potential,” “estimate(s)”, "intend," "project," "seek," "should," "would" and similar expressions are intended to identify forward-looking statements. Forward-looking statements are statements that are not historical facts, reflect management’s expectations as of the date of this presentation, and involve important risks and uncertainties. Forward-looking statements herein include, but are not limited to, statements with respect to the timing and results of future clinical and pre-clinical milestones; the timing of future preclinical studies and clinical trials and results of these studies and trials; the clinical and therapeutic potential of our drug candidates; and management’s ability to successfully achieve its goals. These forward-looking statements are based on our current expectations and may differ materially from actual results due to a variety of important factors including, without limitation, risks relating to: whether any of our drug candidates will advance further in the clinical development process and whether and when, if at all, they will receive approval from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies; whether historical preclinical results will be predictive of future clinical trial results; whether historical clinical trial results will be predictive of future trial results; whether any of our drug candidate discovery and development efforts will be successful; whether any of our drug candidates will be successfully marketed if approved; our ability to achieve the benefits contemplated by our collaboration agreements; management’s ability to successfully achieve its goals; the sufficiency of our cash resources; our ability to raise additional capital to fund our operations on terms acceptable to us or the use of proceeds of any offering of securities or other financing; general economic conditions; competition; and the other risk factors contained in our periodic and interim reports filed with the Securities and Exchange Commission which are available on the SEC website at www.sec.gov. You are cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events, except as required by law.

Curis Mission & Strategy

Developing the New Generation of Targeted Cancer Drugs



Mission

Work relentlessly to develop innovative and differentiated therapeutics that improve the lives of cancer patients

Strategy

Select the right targets
Design the right drugs
Study the right patients

Company

Overview

Investment Thesis	Curis seeks to develop novel, first-in-class, cancer therapeutics that we believe have significant potential in areas of unmet patient need
Robust Pipeline	CA-4948: first-in-class inhibitor of IRAK4 in oncology *There are no drugs currently approved for IRAK4 inhibition in oncology* CI-8993: first-in-class antagonist of VISTA *There are no drugs currently approved for VISTA inhibition*
Corporate	• Experienced management team with proven capabilities • Curis R&D pioneered the first-in-class inhibitor of the Hedgehog pathway (Erivedge®) partnered with and commercialized by Genentech/Roche for advanced basal cell carcinoma • Pro forma cash and investments of approximately $185M* as of Nov 30, 2020

*Pro Forma Cash = $26.3M as reported + $159.1M in proceeds from December Public Offering

Evolution of Curis

Progressing through Clinical Studies on the Path to Potential Registration

2019

Initial Clinical Data

- ☑ Report initial Ph1 data for CA-4948 in NHL
- ☑ Evaluate new published research in IRAK4-L expression and the potential opportunity for CA-4948 in AML/MDS

2020

Expand Clinical Opportunities

- ☑ Report expanded Ph1 data for CA-4948 study in NHL and identify Recommended Phase 2 Dose (RP2D)
- ☑ Initiate a Ph1 study of CA-4948 in AML/MDS including patients expressing IRAK4-L and report initial Ph1 data
- ☑ Acquire exclusive option to license the leading VISTA monoclonal antibody program (CI-8993) and initiate a Ph1 study

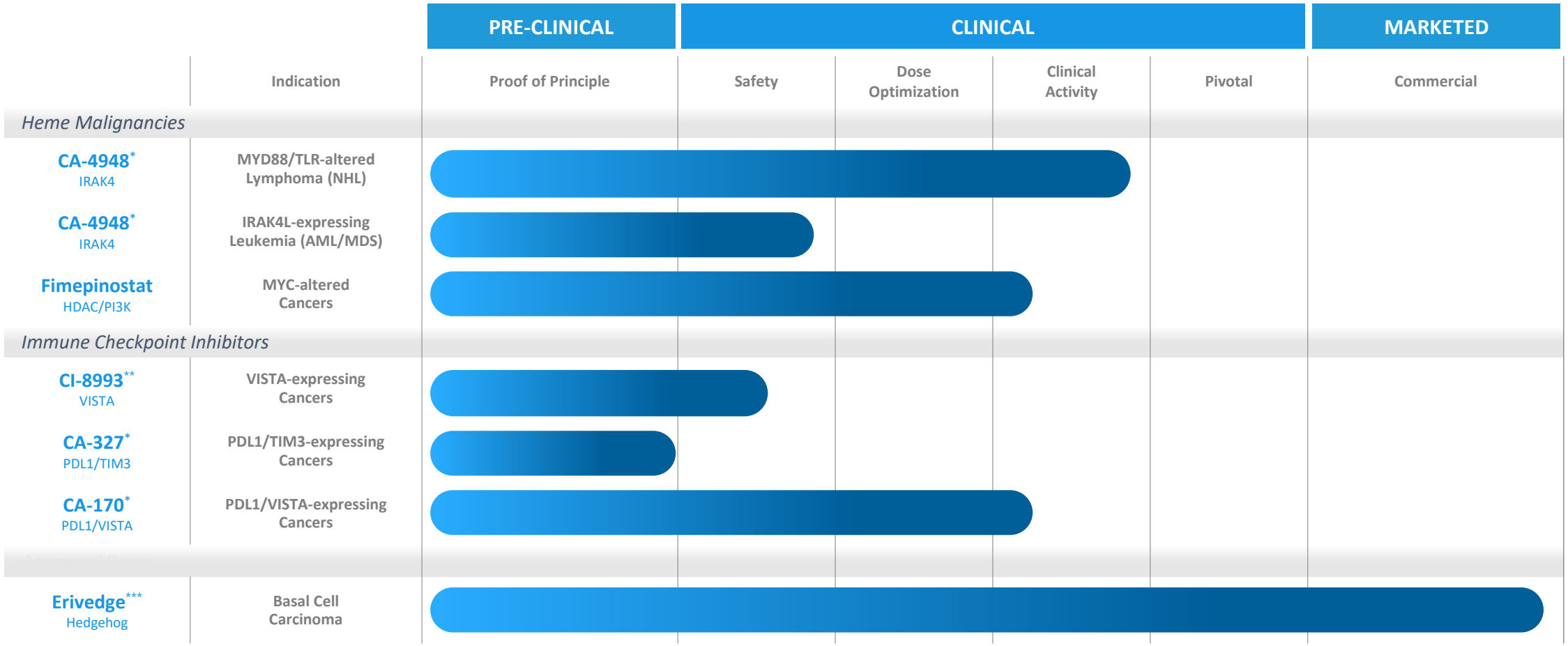
2021

Registrational Strategy

- ☐ Initiate Combination Study of CA-4948 and ibrutinib in NHL and evaluate potential paths for registration
- ☐ Report expanded Ph1 data for CA-4948 study in AML/MDS and identify Recommended Phase 2 Dose (RP2D)
- ☐ Initiate the clinical and non-clinical research collaboration with the NCI under the CRADA for CA-4948
- ☐ Report initial clinical data for CI-8993 Ph1 study targeting VISTA in solid tumors

Pipeline

All Curis programs are novel, first-in-class



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** Option to license IP from ImmuNext
*** IP licensed to Genentech (Curis receives royalty income)

IRAK4 Targeted Program in AML/MDS

CA-4948: In development for treatment of cancers driven by IRAK4-L

CA-4948 Overview

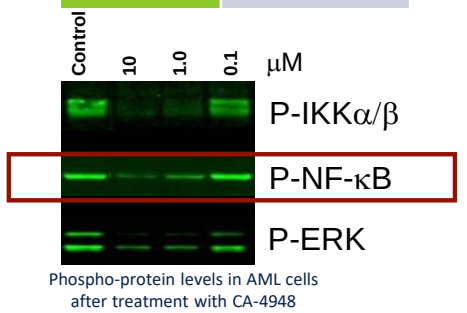
First-in-Class Inhibitor of IRAK4 in Oncology

In Nov 2020, the NCI selected CA-4948, Curis's first-in-class IRAK4 inhibitor, and entered into an agreement ("CRADA") with Curis to conduct both clinical and non-clinical studies of CA-4948 in oncology

Profile	
Value Proposition	• First-in-class IRAK4 inhibitor in cancer • Specific malignancies in Lymphoma are characterized by overactivity of NF-κB and the TLR/myddosome (which is dependent upon IRAK4) • Specific malignancies in Leukemia are characterized by spliceosome mutations that cause an overexpression of IRAK4-L (the oncogenic isoform of IRAK4) • Composition-of-matter IP extends into 2035
Target Patient Population	Lymphoma: 100% of patients treated w/ibrutinib (IRAK4i combination with BTKi) Leukemia: >50% of AML/MDS patients (population which overexpresses IRAK4-L)
Product Candidate Description	• Potent and orally bioavailable inhibitor of IRAK4 for treatment of NF-κB driven lymphomas and IRAK4-L driven leukemia

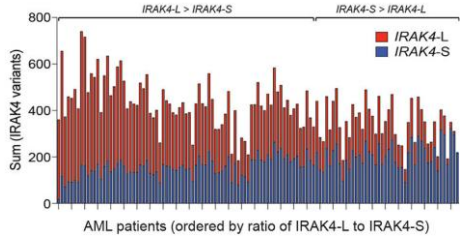
Kinase	Affinity K_d (nM)
IRAK4	23
IRAK1	12,000
IRAK2	>20,000
IRAK3	8,500

Highly specific and targeted IRAK4 inhibitor[1]



Phospho-protein levels in AML cells after treatment with CA-4948

In Lymphoma:
Potent suppressor of NF-κB signal transduction[2]

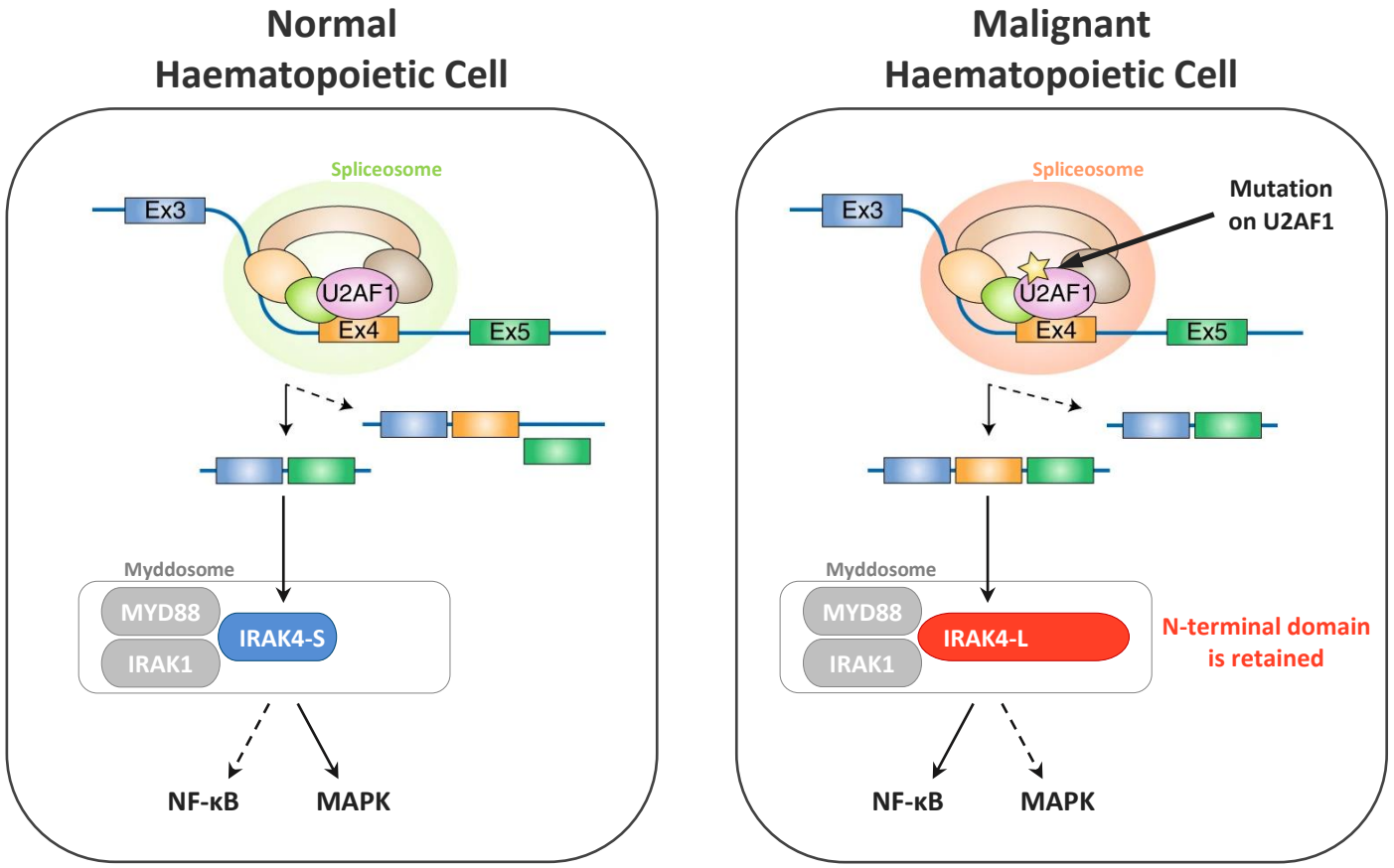


In Leukemia:
>50% of AML/MDS patients overexpress IRAK4-L[3]

1) Data from Curis preclinical study
2) Booher et al. AACR 2017 (poster #1168)
3) Smith et al. Nat Cell Biol 2019

CA-4948 in AML/MDS

IRAK4-L is a Novel Target in AML/MDS



Guillamot et al. Nat Cell Biol. 2019

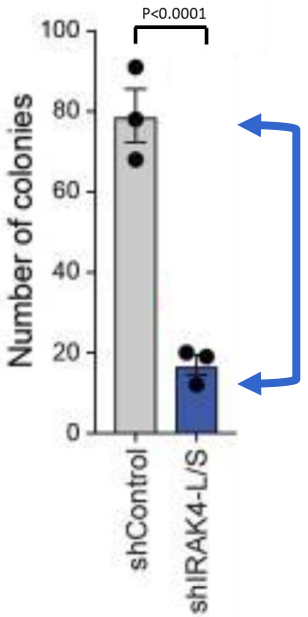
Guillamot et al. Nat Cell Biol. 2019

specific genetic mutations (incl. U2AF1 and SF3B1) drive the expression of IRAK-L, the long isoform of IRAK4

CA-4948 in AML/MDS

Targeting IRAK-L Demonstrates Anti-Cancer Activity in Preclinical Models

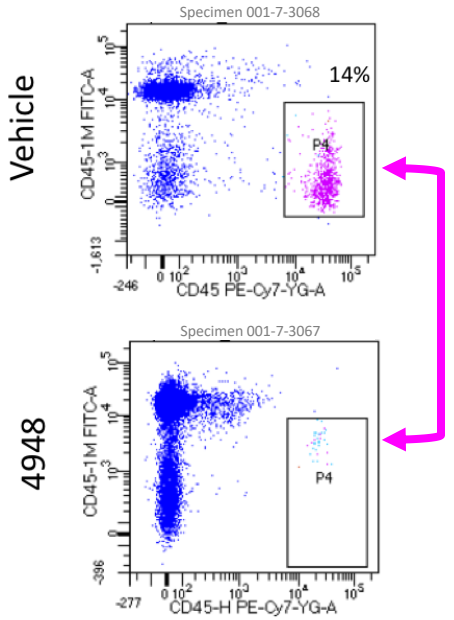
IRAK4-L is Oncogenic



Blocking IRAK4-L reduces formation of ***leukemia colonies*** *in preclinical studies*[1]

IRAK4-L knockout models demonstrate genetic link to oncogenic immune signaling in AML/MDS[1]

CA-4948 Targets IRAK4-L



CA-4948 treatment reduces ***leukemic blasts*** *in patient-derived xenografts*[2]

IRAK4-L inhibition with CA-4948 demonstrates anti-cancer activity consistent with knockout models[2]

1) Smith et al. Nat Cell Biol 2019
2) Choudhary et al. AACR 2017

CA-4948 in AML/MDS

Landscape of Disease Targets in AML/MDS

Disease Driver	% of Patient Population
IRAK4-L	> 50%[1]
FLT3	25-30%[2]
TET2	10-20%[3]
IDH2	9-13%[4]
IDH1	6-10%[4]
CEBPA	~10%[3]

- Non-targeted therapies administered in monotherapy have historically provided limited clinical benefit, especially in relapsed/refractory patients
- Targeted therapies (e.g., FLT3, IDH) have been limited by the size of their respective target patient populations
- IRAK4-L is a novel target in AML/MDS and has been shown to be preferentially expressed in >50% of the AML/MDS patient population

1) Smith et al. Nat Cell Biol 2019
2) Saygin, et al. J Hematol Oncol. 2017 Apr 18
3) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6142505/
4) DiNardo et al. N Engl J Med 2018

CA-4948 in AML/MDS

Trial Design

Data cut-off: 23Nov2020

Baseline Characteristics of Ph1 Patients	Overall (N=6)
Male (%)	5 (83%)
Female (%)	1 (17%)
Median Age (range)	72 (32-84)
Median Prior Therapies (range)	3 (1-4)
Histology	
Acute Myelogenous Leukemia (AML)	4 (67%)
Myelodysplastic Syndrome (MDS)	2 (33%)

Study Objectives

Primary: Maximum tolerated dose and recommended Phase 2 dose

Secondary: Pharmacokinetic (PK) profile, preliminary anti-cancer activity

Study Population

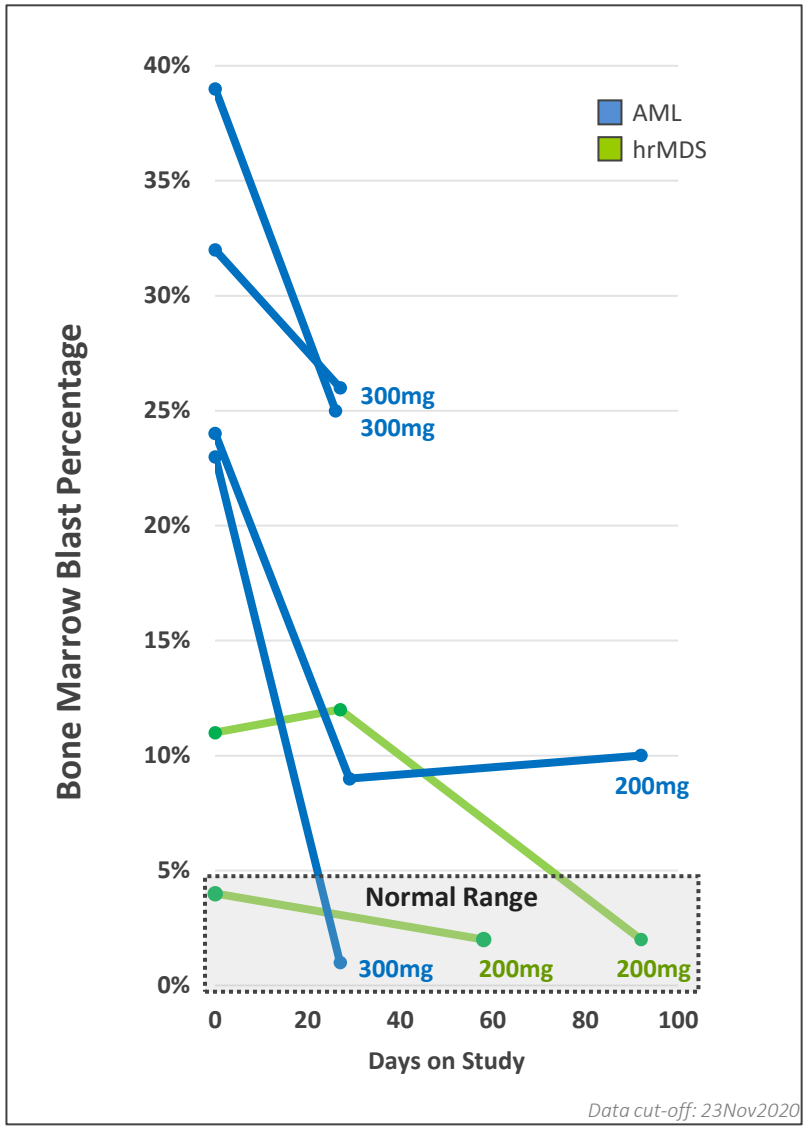
- Relapsed/Refractory disease
- Histopathologically confirmed AML or High-Risk MDS
- Age ≥ 18 years
- ECOG performance Status of ≤ 2

Dosing

- Oral
- 28-day cycles
- 3+3 escalation design (200mg BID, 300mg BID, and 400mg BID)

CA-4948 in AML/MDS

Monotherapy Anti-Cancer Activity Observed in Early Ph1 Data



- **1st patient dosed in Q3 2020**
- **Consistent reduction of Marrow Blasts across population (6 patients)**
- **2 patients have achieved Marrow CR**

		Blasts Baseline	Blasts Best Resp	Change	
AML	005-2003	32%	26%	-19%	
AML	005-2002	39%	25%	-36%	
AML	003-1002	24%	9%	-63%	
hrMDS	003-1003	4%	2%	-50%	
hrMDS	003-1001	11%	2%	-82%	**Marrow CR**
AML	005-2001	23%	1%	-96%	**Marrow CR**

Note: To achieve Marrow CR, a patient's blast count must be elevated at baseline (>5%) and, after treatment, decrease by ≥ 50% from baseline into the normal range (≤5%)

IRAK4 Targeted Program in NHL

CA-4948: In development for treatment of cancers driven by NF-κB and the TLR/Myddosome

CA-4948

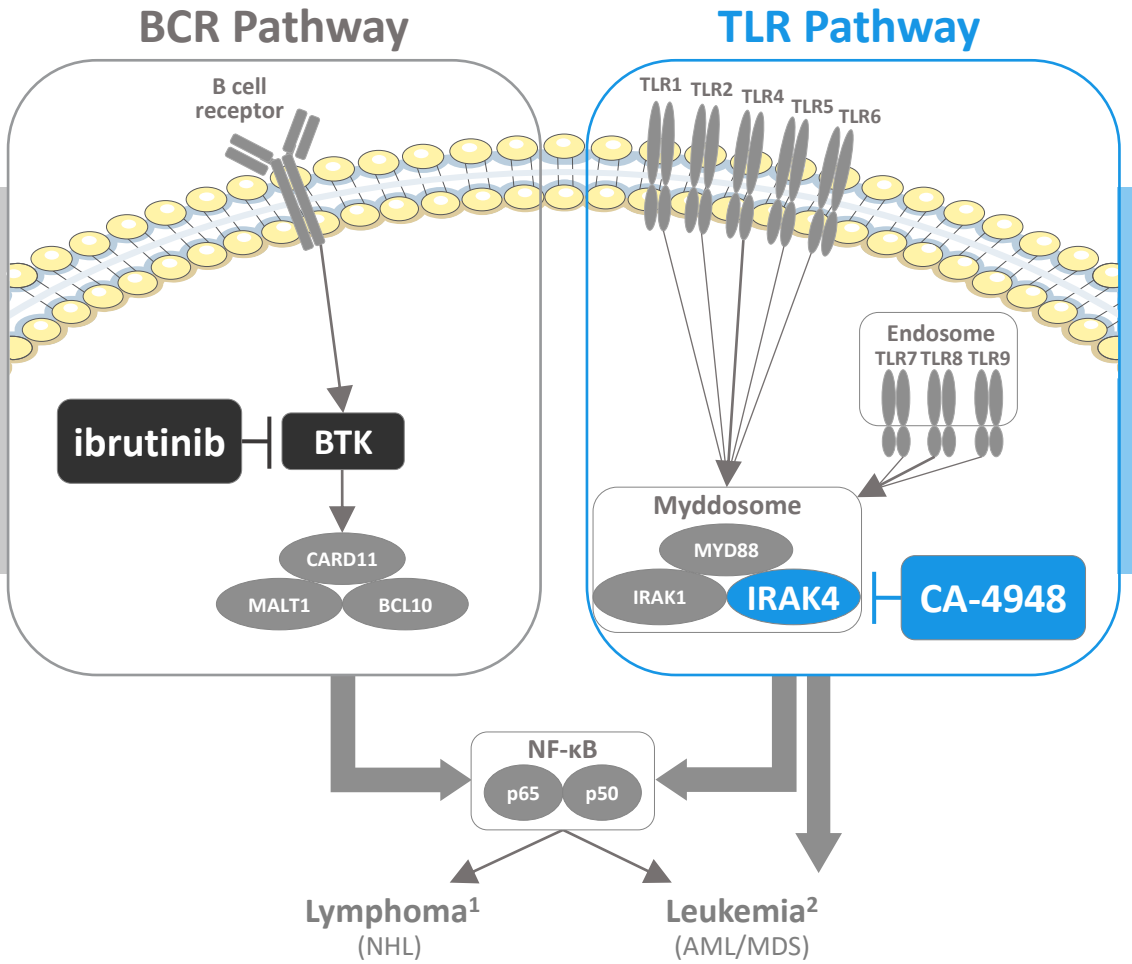
Novel Mechanism of Action for Addressing NF-κB

BCR and TLR are parallel pathways and primary independent activators of NF-κB

Pathway is Oncogenic

Pathway activates NF-κB

Pathway is dependent upon BTK



Pathway is Oncogenic[2,3,4]

Pathway activates NF-κB

Pathway is dependent upon IRAK4

–Signaling requires myddosome, which requires IRAK4

1) IMBRUVICA Package Insert. Rev 08/2018
2) Ngo et al. Nature. 2011 Feb 3;470(7332):115-9
3) Küppers et al. J Exp Med. 2015. 212(13): 2184
4) Smith et al. Nat Cell Biol 2019

CA-4948 in Lymphoma

Trial Design

Data cut-off: 23Nov2020

Baseline Characteristics of Ph1 Patients	Overall (N=31)
Male	26 (84%)
Female	5 (16%)
Median Age	69yrs
Histology	
Diffuse large B-cell lymphoma (DLBCL)	14 (45%)
Transformed follicular lymphoma (t-FL/DLBCL)	6 (19%)
Waldenström's Macroglobulinemia (WM)	4 (13%)
Other Lymphoma*	7 (23%)
Prior Therapies	
Median prior lines of therapy	4 prior lines
BTK inhibitor, n (%)	6 (19%)
CAR-T, n (%)	5 (16%)
ASCT , n (%)	7 (23%)
Other	13 (42%)
MYD88 Status	
Positive, n (%)	2 (6%)
Negative, n (%)	18 (58%)
Unknown, n (%)	11 (35%)

**includes Lymphoplasmacytic (n=2), Mantle Cell (n=2), Marginal Zone (n=2), High Grade MYC-BCL$_6$ (n=1)*

Study Objectives

Primary: Safety and tolerability

Secondary: Pharmacokinetic (PK) profile, preliminary anti-cancer activity

Study Population

- Relapsed/Refractory disease
- Histopathologically confirmed B-cell NHL, including WM/LPL
- Age ≥ 18 years
- ECOG performance status of ≤ 1

Dosing

- Oral, QD or BID continuous dosing
- 21-day cycles

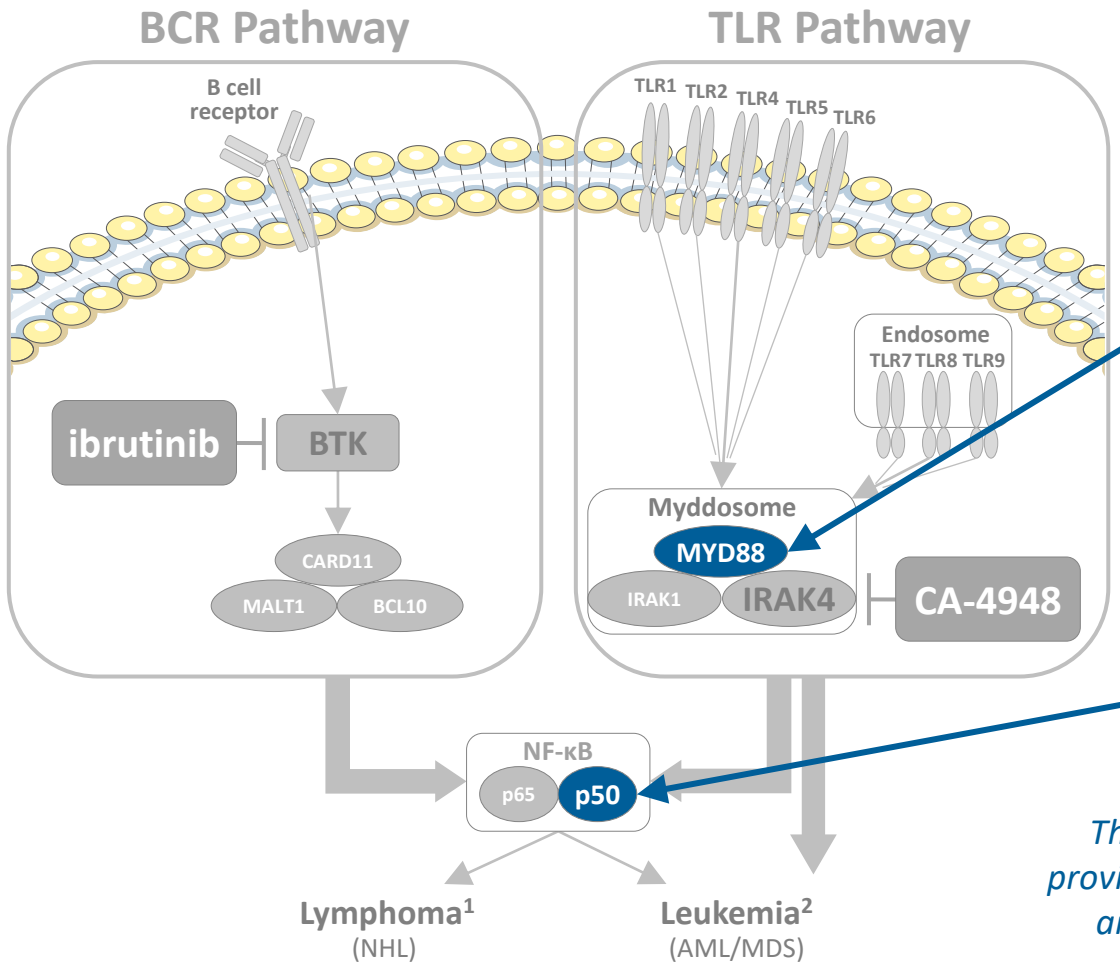
Dose Levels, 3+3 Design

QD: 50, 100mg

BID: 50, 100, 200, 300 or 400mg

CA-4948 in Lymphoma

Two Potential Biomarkers Identified



2

Is NF-κB activity driven by the TLR/myddosomal axis?

MYD88 Mutation

Genetic alteration of MYD88 at baseline causes constitutive activation of the myddosome and is a driver of NF-κB activity

This potential predictive biomarker may support patient enrichment by identifying patients with excessive myddosome activity (who may therefore be good candidates for IRAK4 inhibition)

1

Is NF-κB is active?

NF-κB phospho-p50

Positive expression of NF-κB phospho-p50 indicates that the NF-κB complex is active

This potential biomarker may support patient selection and provide evidence that CA-4948 is hitting the direct target (IRAK4) and inhibiting the downstream target (the NF-κB complex)

1) IMBRUVICA Package Insert. Rev 08/2018
2) Ngo et al. Nature. 2011 Feb 3;470(7332):115-9

CA-4948 in Lymphoma

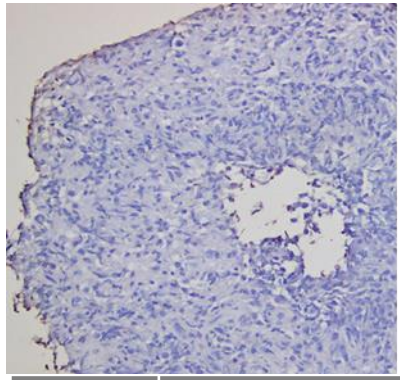
Early Biomarker Data from Phase 1 patients

This clinical study is ongoing, more data are needed to confirm these potential biomarkers

NF-κB phospho-p50

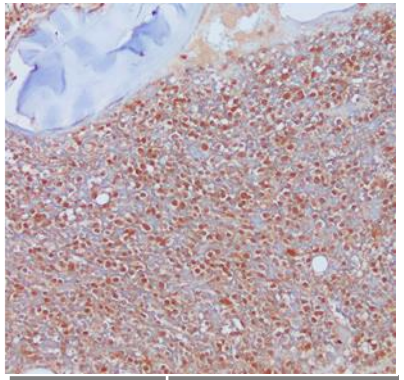
NF-κB phospho-p50 protein expression at baseline (indicator of NF-κB activity) correlates with patient outcomes

NEGATIVE at baseline
NFκB phospho-p50 expression before treatment with CA-4948



Patient	Best Response
12-1002	+86% PD
018-2004	+156% PD
001-4002	+7% PD
002-4004	+75% PD
012-4004	+125% PD
012-5006	+190% PD
013-6001	+98% PD

POSITIVE at baseline
NFκB phospho-p50 expression before treatment with CA-4948



Patient	Best Response
19-1001	-35% SD
02-1001	-23% SD
02-3003	+22% SD
012-5007	-34% SD
002-6007	+25% SD
002-6008	+16% SD
15-1001	+66% PD

Note: data included for all patients for whom pre/post samples were available as of Nov 23, 2020

p-p50 Biomarker May Support Patient Selection

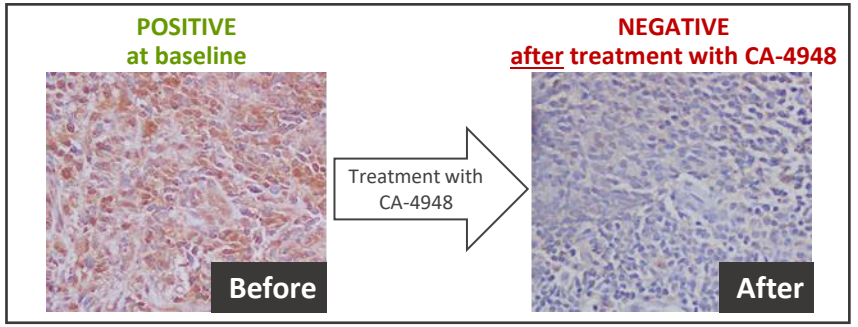
- Patients whose tumors do not exhibit NF-κB activity may not be amenable to NF-κB downregulation
  - *7 of 7 patients testing negative at baseline experienced disease progression*
  - *2 of these patients were dosed at 200mg BID*
- Patients whose tumors do exhibit NF-κB activity may be amenable to NF-κB downregulation
  - *6 of 7 patients testing positive for p-p50 at baseline achieved stable disease or tumor shrinkage*
  - *1 of these patients (012-5007) was dosed at 300mg BID*

MYD88 Biomarker May Support Patient Enrichment

- Both patients whose tumor tested positive for MYD88 mutation saw tumor reduction
- Observed tumor reduction is consistent with our thesis that patients with MYD88-mutated tumors should benefit from IRAK4 inhibition

Phospho-p50 Expression in Pre/Post Tumor Biopsies Also Provides Evidence that CA-4948 is Hitting the Target (IRAK4) and Downregulating NF-κB Activity

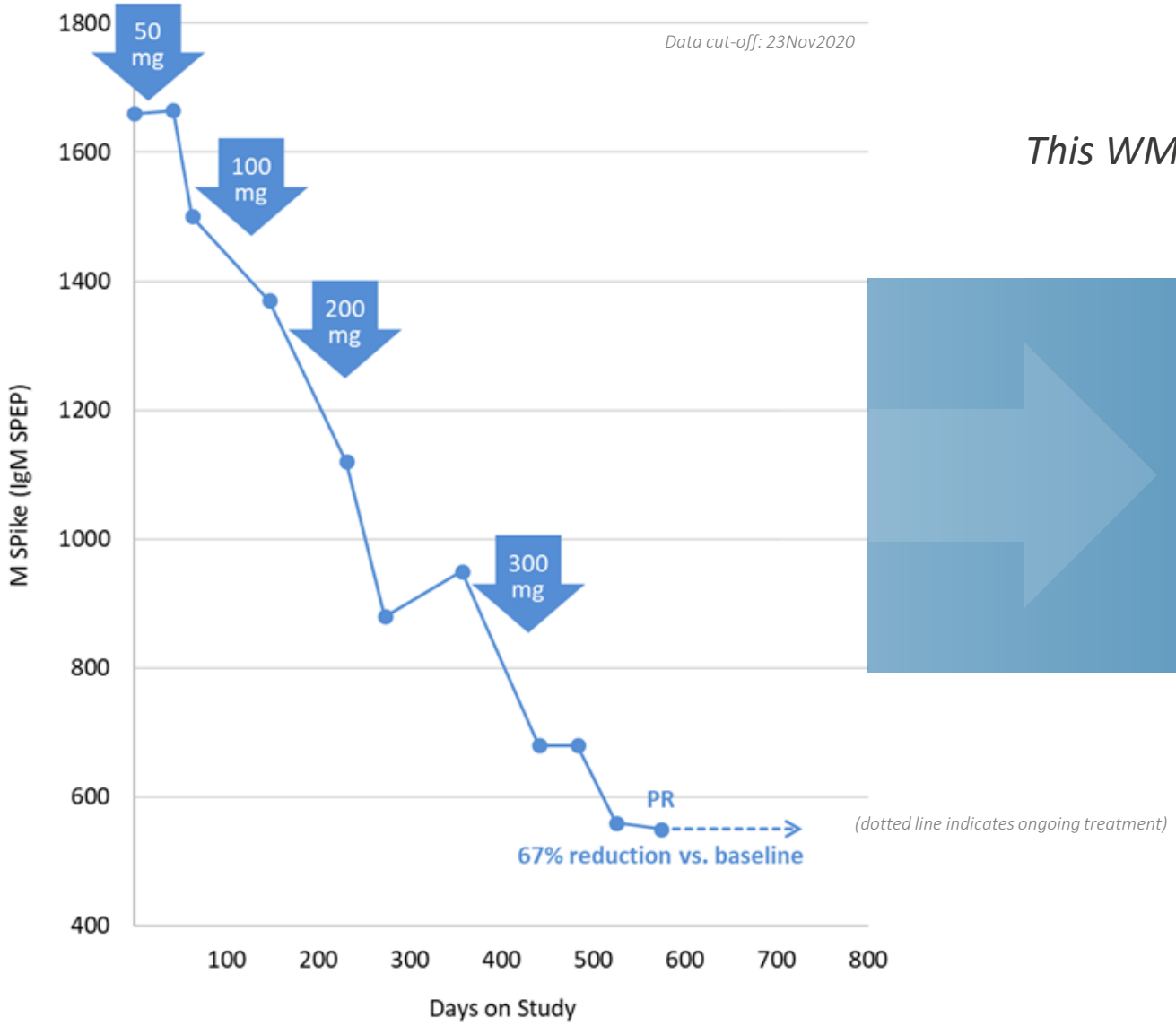
After treating the patient with CA-4948, their tumor no longer expresses NF-κB phospho-p50



(Day 20)

CA-4948 in Lymphoma

Anti-Cancer Activity and Dose Response in a Patient with Waldenströms Macroglobulinemia (WM)



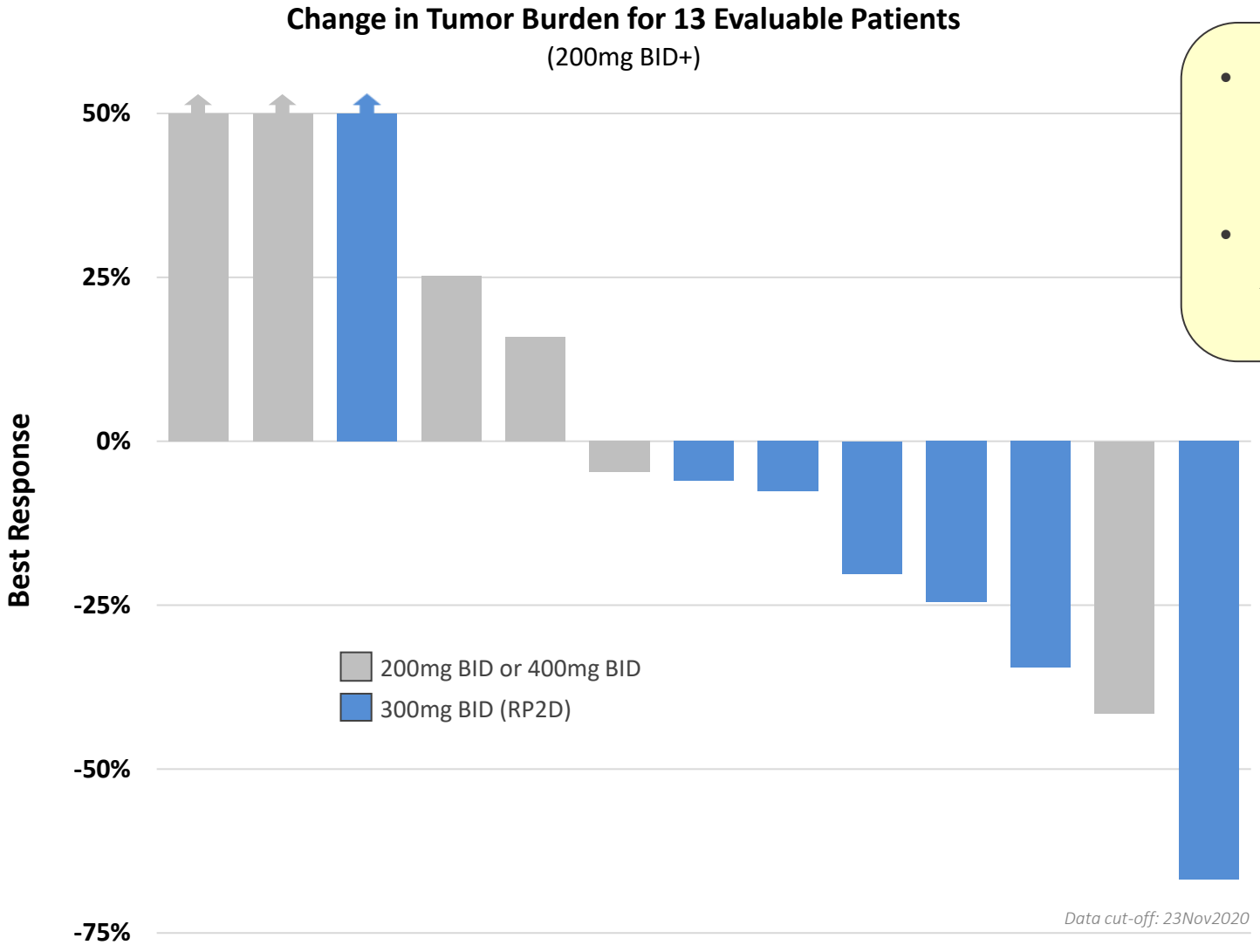
Note:
This WM patient is one of the two patients in the Ph1 study who tested positive for MYD88

Demonstrated Anti-Cancer Activity
Objective Response observed at 300mg BID (RP2D)

Demonstrated Dose Response
Tumor burden decreased with each increase in dose

CA-4948 in Lymphoma

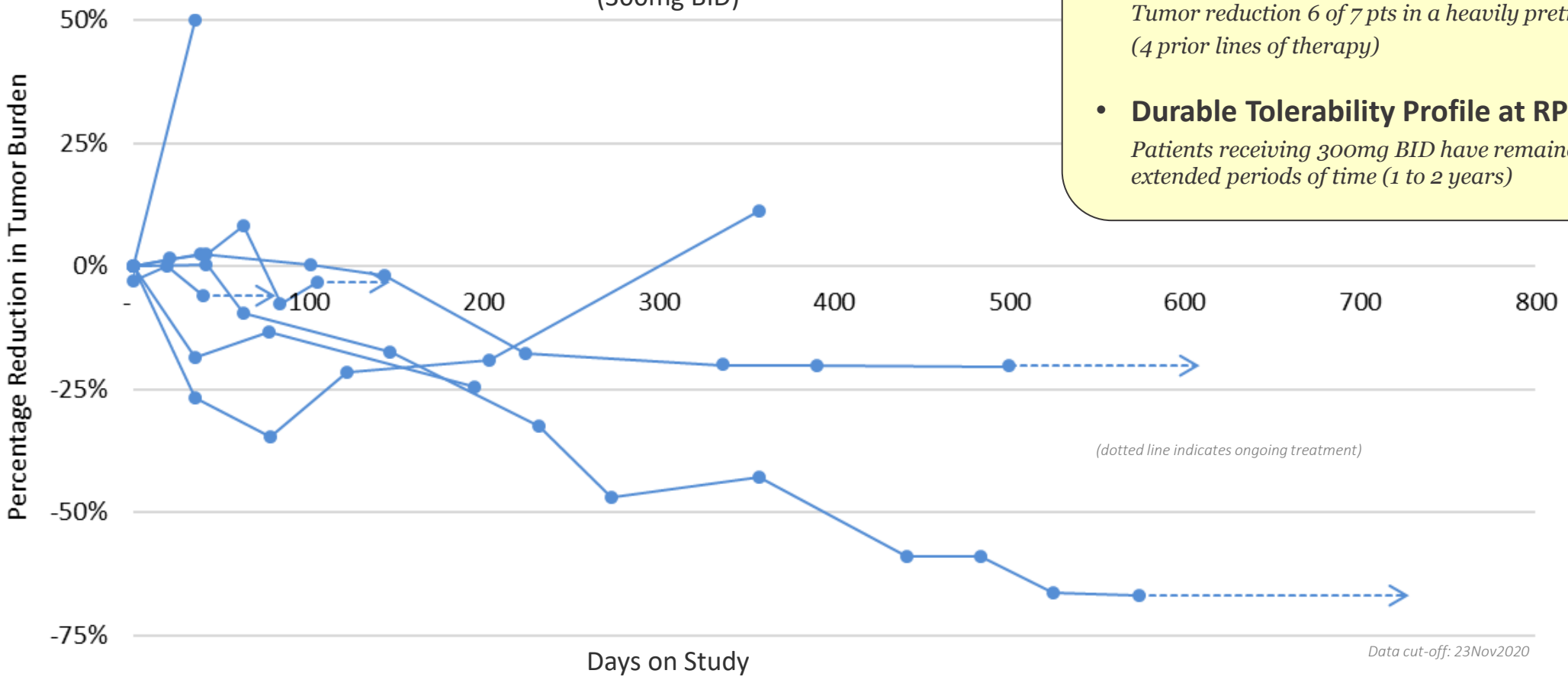
In Updated Ph1 Data, 300mg BID (RP2D) Offered Best Balance of Tolerability and Anti-Cancer Activity



- **Clear Single Agent Anti-Cancer Activity at RP2D**
  Tumor reduction 6 of 7 pts in a heavily pretreated population (4 prior lines of therapy)
- **Durable Tolerability Profile at RP2D**
  Patients receiving 300mg BID have remained on therapy for extended periods of time (1 to 2 years)

CA-4948 in Lymphoma

In Updated Ph1 Data, 300mg BID (RP2D) Offered Best Balance of Tolerability and Anti-Cancer Activity

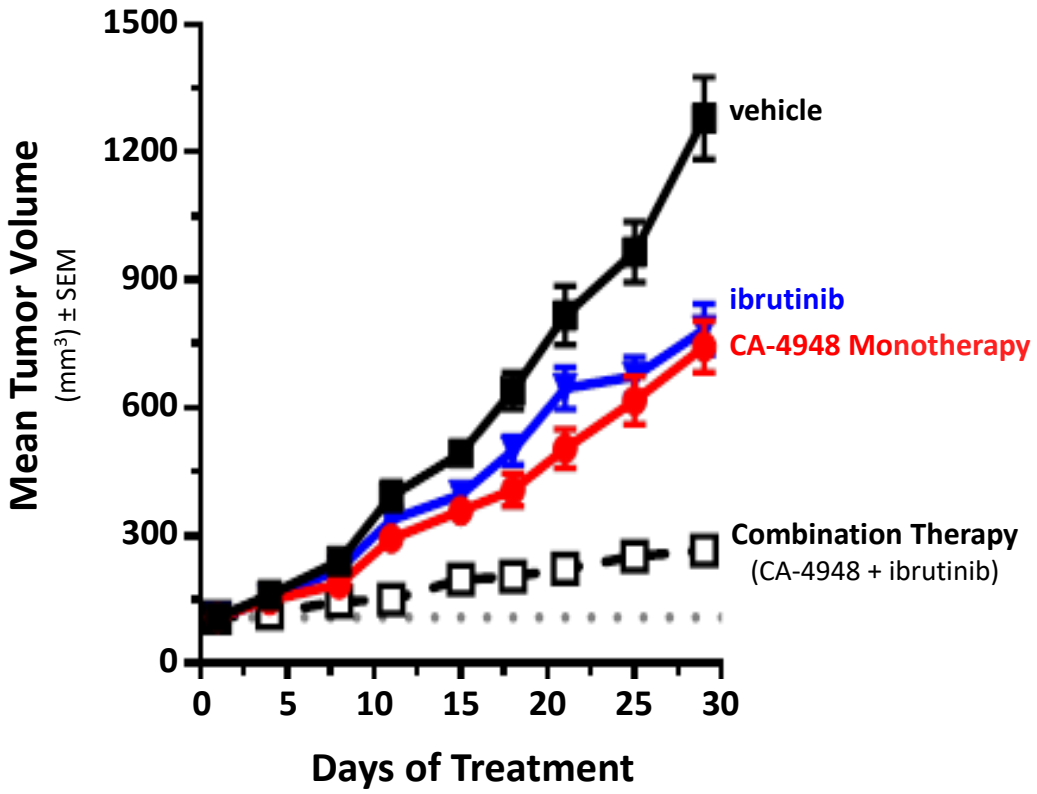


- **Clear Single Agent Anti-Cancer Activity at RP2D**
  Tumor reduction 6 of 7 pts in a heavily pretreated population (4 prior lines of therapy)
- **Durable Tolerability Profile at RP2D**
  Patients receiving 300mg BID have remained on therapy for extended periods of time (1 to 2 years)

CA-4948 in Lymphoma

2021 Plan: Initiate Clinical Study in Combination Therapy (CA-4948 + ibrutinib)

Anti-Cancer Activity
in Monotherapy and Combination Therapy
in MYD88-altered DLBCL preclinical model (OCI-Ly10)



Booher et al. Waldenstrom Roadmap Symposium 2019

Mechanism of Action Supports Combination

- CA-4948 potentially offers a novel mechanism for reducing NF-κB activity by targeting the TLR/myddosome (a parallel/complementary pathway to the BCR/BTK pathway)

Clear Single Agent Anti-Cancer Activity

- Monotherapy anti-cancer activity demonstrated in both preclinical models and initial Ph1 data

Clear Synergy with ibrutinib

- CA-4948 and ibrutinib show clear synergy in preclinical models
- Next Step: initiate clinical study of CA-4948 and ibrutinib

CA-4948 in Lymphoma (planned combination study)

Trial Design

Study Objectives

Primary: Safety and tolerability of CA-4948 in combination with ibrutinib

Secondary: Pharmacokinetic (PK) profile, preliminary anti-cancer activity

Study Population

- Relapsed/Refractory disease
- Histopathologically confirmed B-cell NHL, including WM/LPL
- Age ≥ 18 years
- ECOG performance Status of ≤ 1

Dosing

- CA-4948 – Oral twice daily
- ibrutinib – Oral daily at labeled dose
- 21-day cycles
- 3+3 escalation design for CA-4948 (1st cohort will be 200mg BID)

Additional Patient Cohorts to be Studied in Planned Expansion

- BTK-naïve, Marginal Zone Lymphoma (MZL)
- BTK-naïve, ABC-DLBCL
- BTK-naïve, Primary CNS Lymphoma (PCNSL)
- Patients with adaptive resistance to ibrutinib

VISTA Targeted Program in Solid Tumors

CI-8993: In development for treatment of cancers driven by VISTA-mediated Immune Suppression

CI-8993 Overview

In Development for VISTA Expressing and Infiltrated Cancers

Profile	
Value Proposition	• First-in-class monoclonal antibody antagonist of VISTA • Composition-of-matter IP extends into 2034
Target Patient Population	• Patients with VISTA-expressing cancers (incl. Mesothelioma, NSCLC, and TNBC) • Patients receiving PD1/PDL1 or CTLA4 antibody therapy (or those who have already received it and have developed resistance to it)
Product Description	• Monoclonal antibody developed by ImmuNext/Janssen in partnership with Randy Noelle's lab at Dartmouth (the co-discoverer of VISTA)

CI-8993 Target Background

VISTA is an Important Checkpoint Regulator

RESEARCH ARTICLE SUMMARY

T CELLS

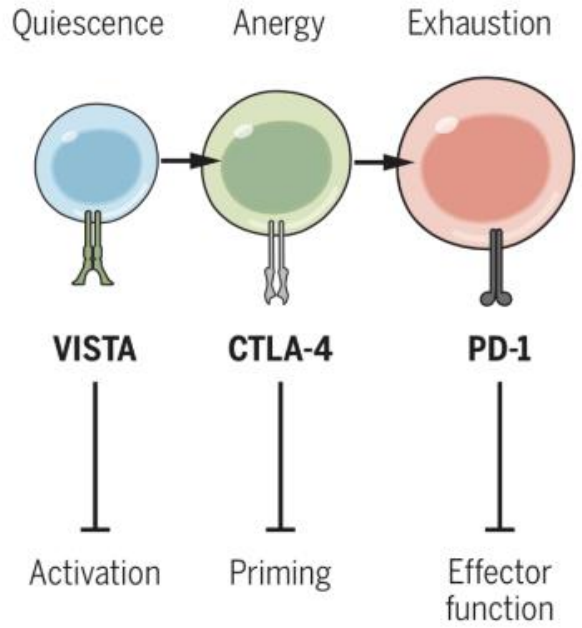
VISTA is a checkpoint regulator for naïve T cell quiescence and peripheral tolerance

Mohamed A. ElTanbouly*, Yanding Zhao*, Elizabeth Nowak, Jiannan Li, Evelien Schaafsma, Isabelle Le Mercier, Sabrina Ceeraz, J. Louise Lines, Changwei Peng, Catherine Carriere, Xin Huang, Maria Day, Brent Koehn, Sam W. Lee, Milagros Silva Morales, Kristin A. Hogquist, Stephen C. Jameson, Daniel Mueller, Jay Rothstein, Bruce R. Blazar, Chao Cheng†, Randolph J. Noelle†

- CTLA-4, PD-1, and VISTA are the three main players in controlling checkpoint blockade
- VISTA controls early T cell activation events
- Blockade of VISTA will allow for an expanded T cell response against tumors

Eltanbouly et al. Science. 2020

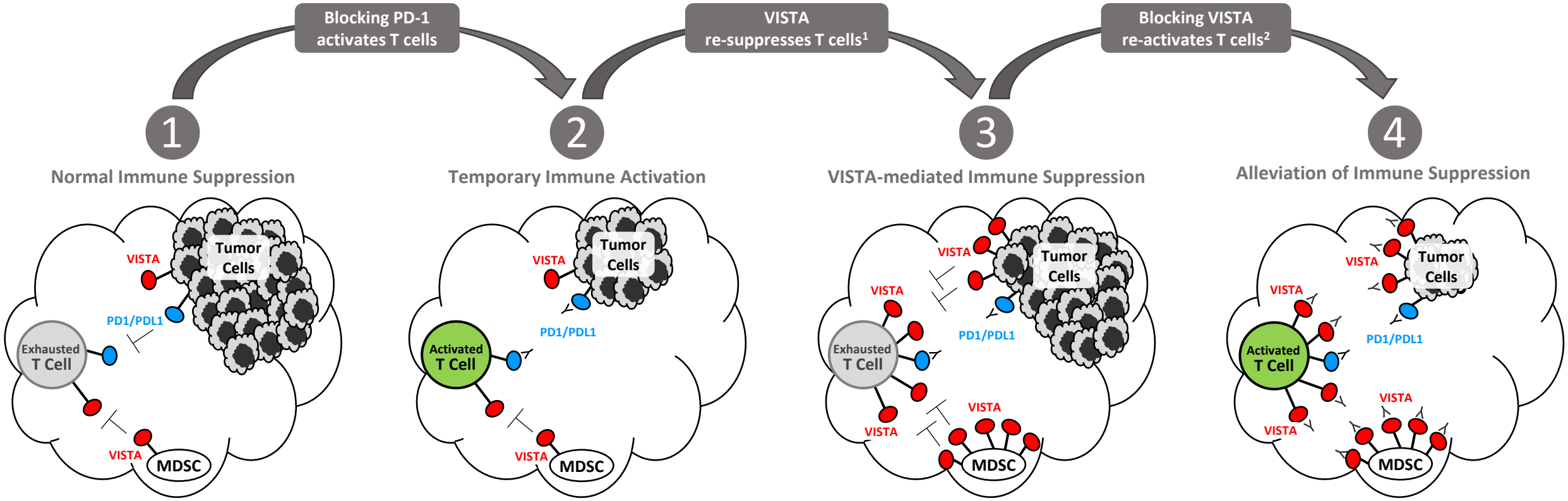
Integration of VISTA with other well-established negative checkpoint regulators of T cell activation



Eltanbouly et al. Science. 2020

CI-8993 Target Background

Role of VISTA in Immune Suppression in the Tumor Microenvironment (TME)



T cells Activated after PD1 Treatment

T cells Suppressed by VISTA after PD1 Treatment

blocking PD1 causes up to 5x increase in VISTA expression[1]

T cells Re-Activated after VISTA Treatment

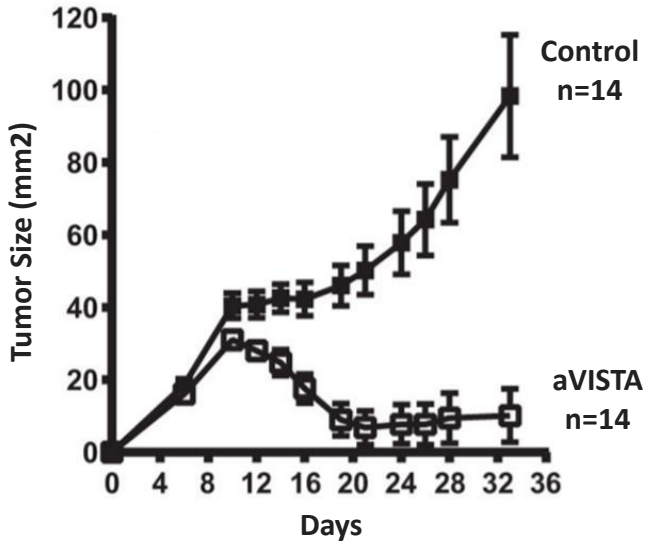
[1] Gao et al. Nature. 2017. 23: 551–555
[2] Data from ImmuNext preclinical studies

CI-8993 Preclinical Data

Preclinical anti-cancer activity demonstrated in both monotherapy & combination therapy

Monotherapy

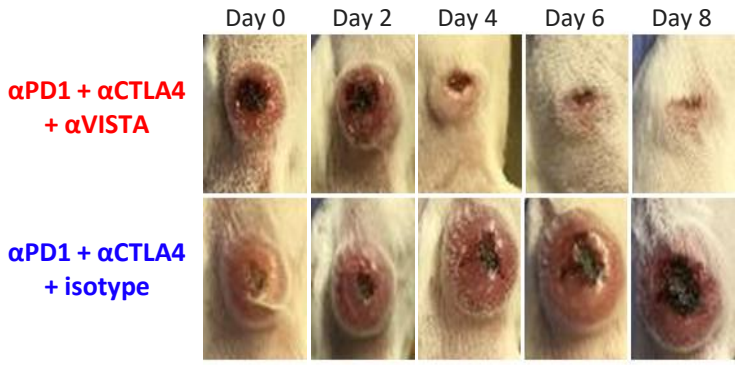
Anti-VISTA inhibited tumor growth in B16ova melanoma model[1]

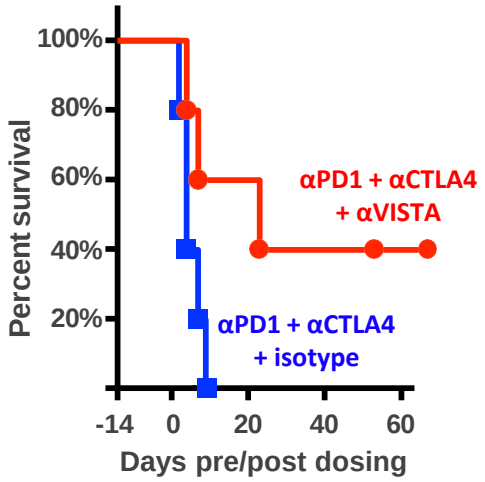


[1] Le Mercier et al. Cancer Res. 2014 Apr 1

Combination Therapy

Anti-VISTA inhibited xenograft growth in checkpoint resistant CT26 model[2]



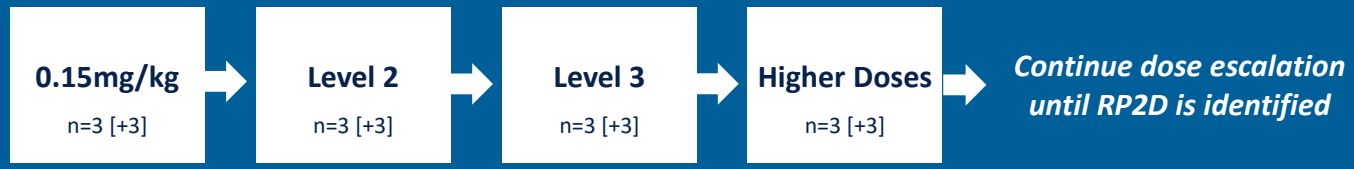


[2] J. Lines, IEBMC Conference 2019

CI-8993 Clinical Plan

Phase 1 dose escalation study design

Curis Design for Ph1 Dose Escalation Study



Patient Population

- Patients with advanced refractory solid tumors (includes mesothelioma, melanoma, NSCLC, TNBC)

Treatment

- Bi-weekly dosing
- Mitigate potential toxicities by desensitization, premedication, dosing interval and duration

Objective

- Safety, PK/PD, tolerability during dose escalation
- Anti-cancer activity during expansion

Prior clinical development of CI-8993:

CI-8993 was originally developed by Janssen (JNJ-61610588)

- JNJ licensed VISTA IP from ImmuNext in 2012 and initiated a Ph1 study in 2016
- 12 patients were enrolled; initial dose level was 0.005mg/kg
- Low-grade transient Cytokine Release Syndrome (CRS) seen at 0.15mg/kg and above

JNJ halted study after 1 DLT at sub-therapeutic dose level

- The only patient treated at 0.3mg/kg experienced grade 3 CRS-associated encephalopathy after 36hrs on treatment
- Patient was initially treated w/antibiotics; symptoms resolved after treatment with tocilizumab
- JNJ opted to halt the study and return IP to ImmuNext

Target range for expected anti-cancer activity (0.5 – 2.0mg/kg) was never reached

Curis Design for Ph1 Study Design Incorporates Key Learnings from Janssen Ph1 Study

- CRS is likely an on-target toxicity; indicates drug is hitting the target and inducing inflammatory response
- Oncology community is now familiar with managing CRS; NCCN guidelines were issued in 2018
- FDA cleared the study IND which outlined our plan for managing CRS and enabling escalation to therapeutic dose levels

Company

Summary

Investment Thesis	Curis seeks to develop novel, first-in-class, cancer therapeutics that we believe have significant potential in areas of unmet patient need
Robust Pipeline	CA-4948: first-in-class inhibitor of IRAK4 in oncology *There are no drugs currently approved for IRAK4 inhibition in oncology* CI-8993: first-in-class antagonist of VISTA *There are no drugs currently approved for VISTA inhibition*
Potential Catalysts	1H 2021: Initiate combination study of CA-4948 and ibrutinib in NHL patients 2H 2021: Report expanded data in CA-4948 Ph1 study in AML/MDS patients 2H 2021: Report initial data in CI-8993 dose escalation Ph1 study

Curis

Leadership Team

Rachel Blasbalg
Head, Human Resources

James Dentzer
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Head, Regulatory

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Head, Intellectual Property

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Head, Clinical Development

Raul Soikes
Head, Portfolio Management

Nancy Soohoo
General Counsel

William Steinkrauss
Chief Financial Officer

End of Corporate Presentation

NASDAQ: CRIS