BOLT BIOTHERAPEUTICS

Leveraging the power of the innate & adaptive immune systems to address key unmet needs in cancer

May 2022

Disclaimer

This presentation contains forward-looking statements that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this presentation, including statements regarding Bolt Biotherapeutics, Inc. (the "Company," "we," "us," or "our")'s future financial condition, ability to achieve upcoming milestones for our product candidates and the success and results of our pipeline programs, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potentially” “predict,” “should,” “will” or the negative of these terms or other similar expressions. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including, among other things: the success, cost and timing of our product development activities and clinical trials; our expectations about the timing of achieving regulatory approval and the cost of our development programs; our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates; our ability to fund our clinical programs and the sufficiency of our cash, cash equivalents, and marketable securities to fund operations into 2024 and the achievement of key milestones; the commercialization of our product candidates, if approved; our plans to research, develop and commercialize our product candidates; our ability to attract collaborators with development, regulatory and commercialization expertise; future agreements with third parties in connection with the commercialization of our product candidates; the success of our current collaborations with third parties, including our collaborations with Bristol-Myers Squibb Company, Innovent Biologics, Inc., Genmab A/S and Toray Industries, Inc.; the achievement of milestone payments or any tiered royalties related to our collaborations; the size and growth potential of the markets for our product candidates, and our ability to serve those markets; the rate and degree of market acceptance of our product candidates; and regulatory developments in the United States and foreign countries. These risks are not exhaustive. For a detailed discussion of the risk factors that could affect our actual results, please refer to the risk factors identified in our SEC reports, including, but not limited to our Annual Report on Form 10-K for the year ended December 31, 2021. New risk factors emerge from time to time and it is not possible for our management to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward- looking statements. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this presentation.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this presentation, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

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Cash on Hand Funds Multiple Milestones

BDC-1001 (HER2 Boltbody™ ISAC)

- Complete monotherapy dose escalation, determine RP2D in 2H 2022
- Complete Opdivo® combination dose escalation, determine RP2D in 2H 2022

BDC-2034 (CEA Boltbody™ ISAC)

- IND-enabling activities, including GLP tox & GMP manufacturing, on track

BDC-3042 (Dectin-2 Agonist Antibody)

- IND-enabling activities on track for 2023 clinical development

Multiple First-in-Class ISACs
First-in-Class Dectin-2 Agonist

Broadly Enabling Platform &
Myeloid Biology Expertise

Cash on Hand of $246.8 million[1]
Funds Key Milestones

[1] Cash, cash equivalents, and marketable securities as of March 31, 2022

Opdivo® is a trademark of Bristol-Myers Squibb Company

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Strategic Collaborations Fund Pipeline Expansion at No Cost to Bolt

Genmab

Innovative leader in antibody & bispecific development for oncology

- Genmab funds 3 bispecific Boltbody ISACs through early clinical development
- Bolt option to co-develop & commercialize 1 candidate in certain regions

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Innovent

Fully integrated biopharma with large antibody library & strong presence in Greater China

- Innovent funds up to 3 Boltbody ISACs through early clinical development
- Bolt option to co-develop & commercialize 2 candidates in certain regions

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TORAY

Global leader in innovative technologies, conducting research in cancer immunotherapeutics

- Toray funds Boltbody ISAC for a specific, novel target through Phase 1
- Global co-development & co-commercialization rights to Bolt

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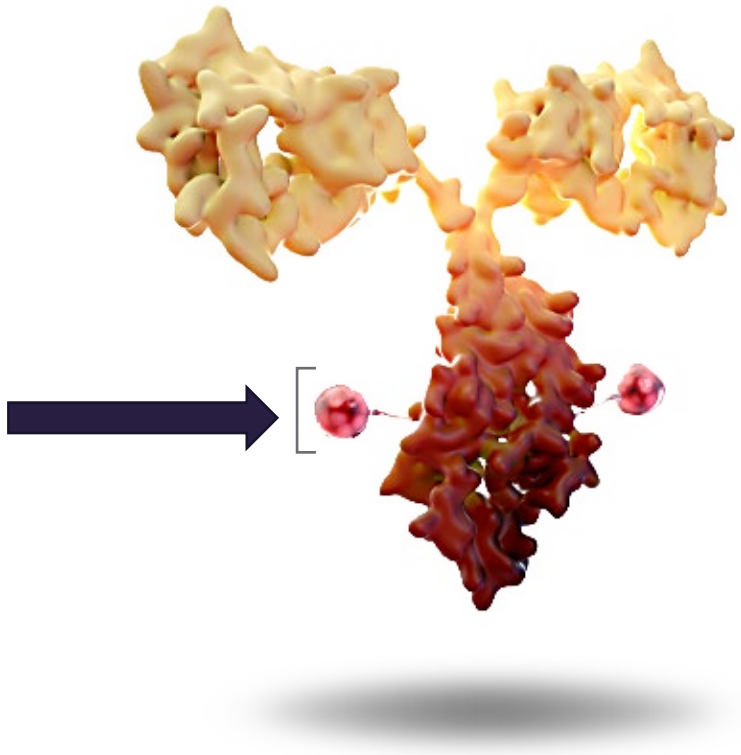
Pioneering a New Class of Targeted Immuno-Oncology Therapeutics

Immune-stimulating Antibody Conjugates (ISACs)[1]

Boltbody™ ISAC

Immune-stimulating Linker-payload

- Potent stimulator of innate immune system
- Non-cleavable linker
- Cell membrane impermeable



Tumor-targeting Antibody

- Geo-locates ISAC to antigen on surface of tumor cell
- Active Fc region drives antibody-dependent cellular phagocytosis (ADCP)

[1]Ackerman SE, et al. *Nature Cancer*. 2021;2:18–33.

BOLT BIOTHERAPEUTICS

Pipeline Overview

- **BDC-1001: HER2 Boltbody™ ISAC**
- BDC-2034: CEA Boltbody ISAC
- BDC-3042: Dectin-2 Agonist Antibody
- PD-L1 Boltbody ISAC Program

Diverse Pipeline of Proprietary Programs

Program (Target)	Indications	Preclinical	Phase 1	Phase 2
BOLTBODY™ ISACs				
BDC-1001 (HER2)	HER2-expressing Solid Tumors • HER2+ Breast Cancer • HER2+ Gastric Cancer • HER2-low Breast Cancer	**Multi-arm Phase 1/2 Trial (monotherapy & Opdivo® combination)**		
BDC-2034 (CEA)	• Non-Small Cell Lung Cancer • Colorectal Cancer • Pancreatic Cancer • Breast Cancer			
PD-L1	Checkpoint-refractory Tumors • Non-Small Cell Lung Cancer • Head & Neck Cancer • Breast Cancer			
MYELOID MODULATING AGONIST ANTIBODY				
BDC-3042 (Dectin-2)	Solid Tumors • KRAS mutated tumors • TP53 mutated tumors			

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BDC-1001 Showing Promise in Phase 1/2 Trial

Recommended Phase 2 Dose Expected in Second Half 2022

Favorable Safety Profile	• Demonstrated favorable safety & tolerability to date • Combination studies with anti-PD1 Opdivo® ongoing
PD Insights Consistent with Mechanism	• Tumor microenvironment & plasma biomarker changes consistent with MOA • No evidence of anti-drug antibody (ADA) formation
Early Signs of Clinical Disease Control	• Early signs of disease control, even below target exposure level • Disease control (SD or PR) noted in 13/40 evaluable subjects in multiple tumor types • Durability: 6 patients with stable disease >12 weeks; PR maintained >52 weeks
Dose Escalation Continues	• Human PK model predicts achieving threshold exposure with more frequent dosing • Weekly dosing underway

Sharma MR, et al., ESMO I-O Poster (2021); data as of ESMO-IO 2021

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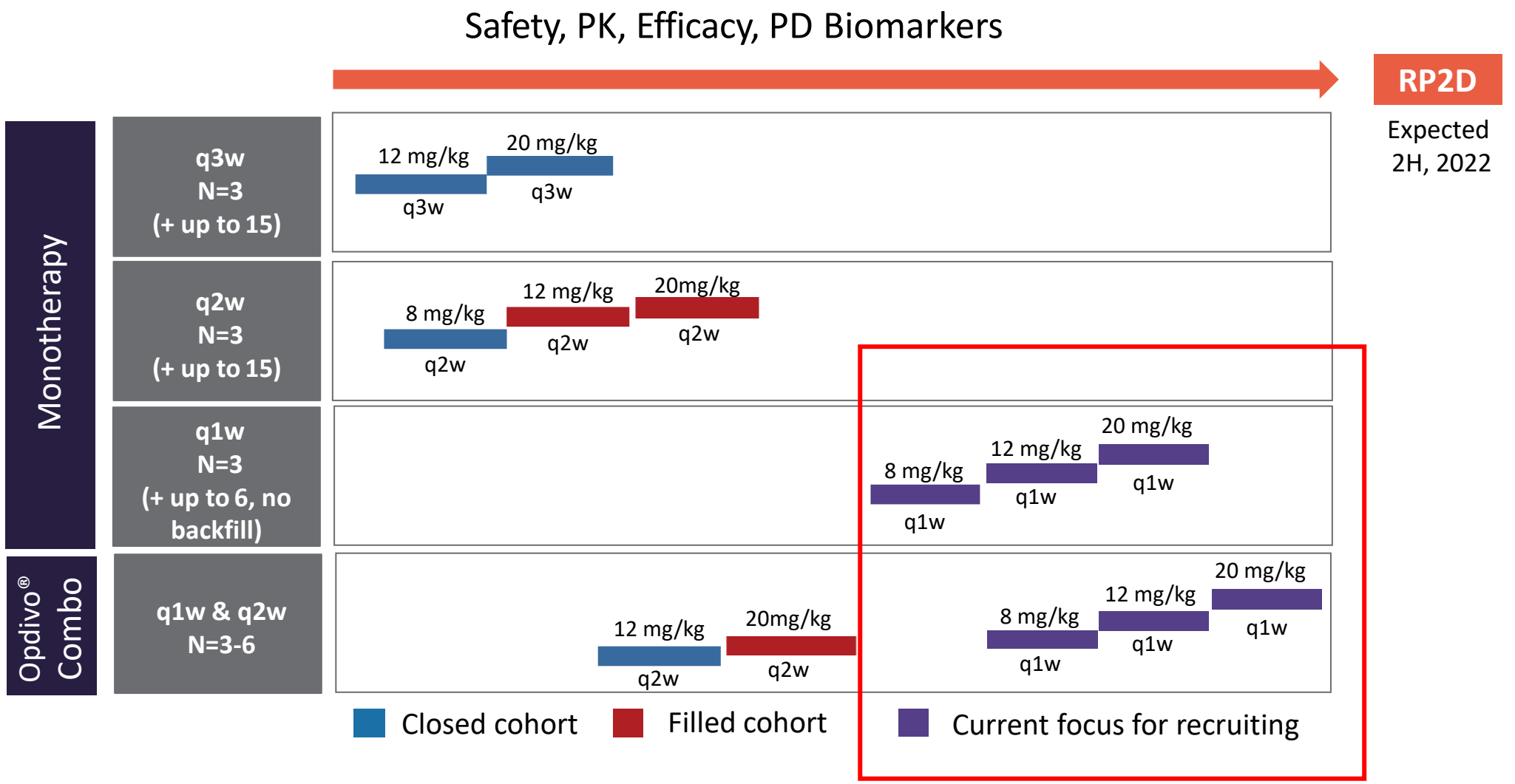
Investigating BDC-1001 Monotherapy & Combination with Opdivo®

Increasing Drug Exposure via Weekly Administration



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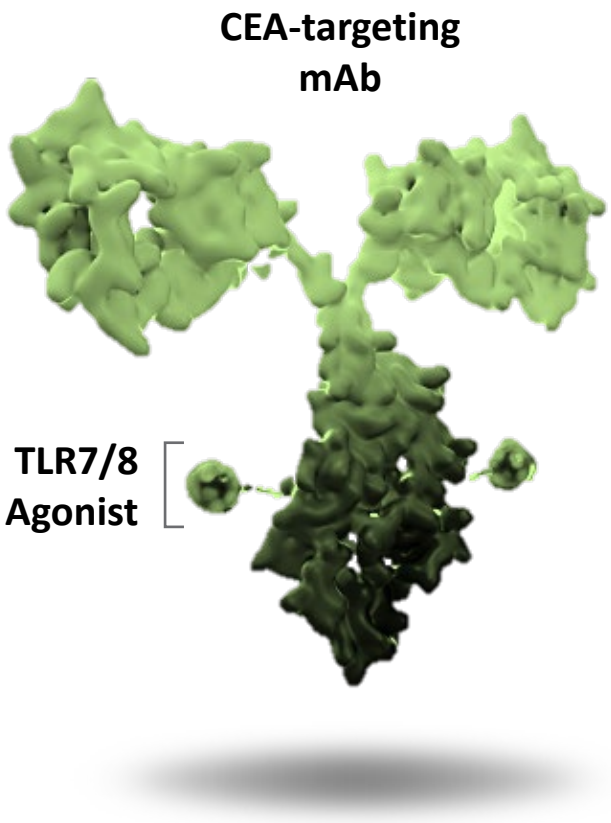
BDC-2034 Aims to Address Significant Unmet Needs in CEA-expressing Solid Tumors

BDC-2034



CEA-targeting mAb conjugated to a proprietary TLR7/8 agonist with a non-cleavable linker

- Unique opportunity to target “cold” tumors that express CEA
- Slow internalizing tumor antigen results in longer residence time

Preclinical Proof of Concept Achieved

- Robust activation of human myeloid APCs
- Potent induction of antibody-dependent cellular phagocytosis
- Anti-tumor activity in immunologically “cold” models of pancreatic cancer

Status

- IND-enabling activities on track, including toxicology study & GMP manufacturing
- Phase 1 initiation expected in 2022

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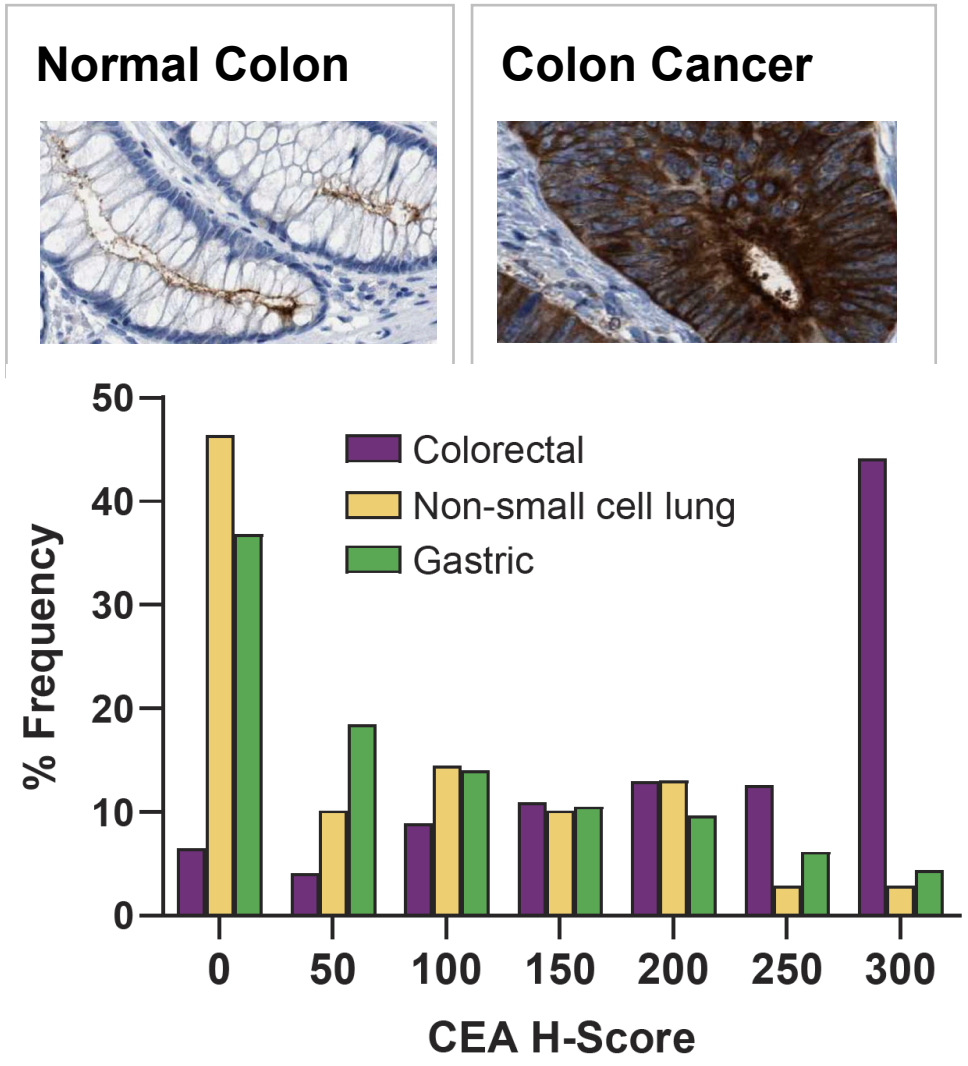
CEA Profile Offers a Compelling Opportunity for ISAC Targeting



CEA (CEACAM5) is a cell-surface glycoprotein

- Slowly internalizing: 60% remains on cell surface after 5 hours

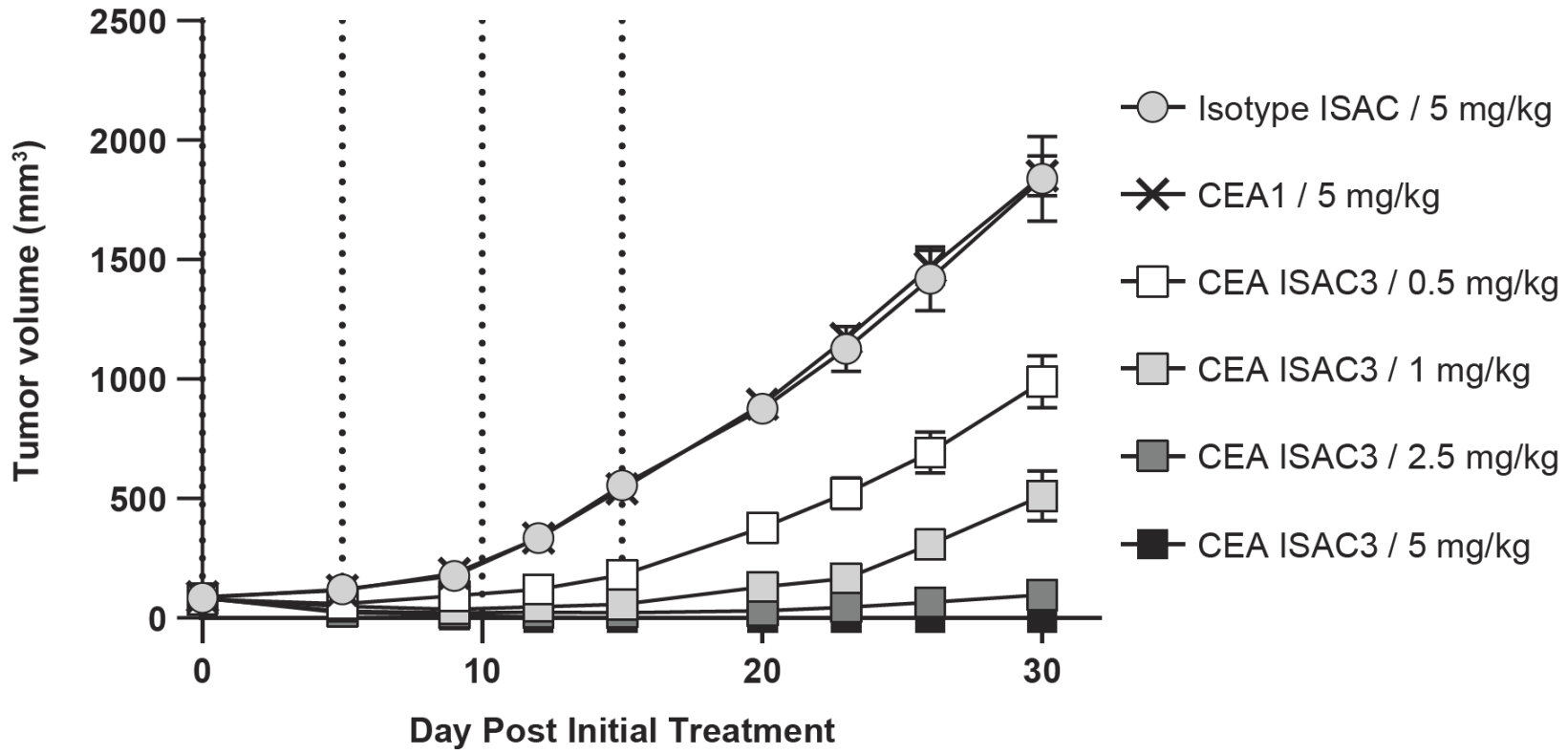
CEA is highly expressed in select cancers

- Colorectal Cancer: >90% express CEA
  - Universal myeloid immune cell infiltration
  - Low T-cell infiltrate except in MSI-H tumors
- Gastric/GEJ Cancer: >50% express CEA
- Non-small Cell Lung Cancer: >50% express CEA

Representative CEA IHC images from Human Protein Atlas;
Mallet WG, et al., SITC Poster (2021)

CEA ISAC Demonstrates Robust Anti-tumor Activity in CEA-expressing Pancreatic Cancer Model

CEA ISAC anti-tumor activity correlated with cytokine secretion & immune infiltration in a dose-dependent manner



Mallet WG, et al., SITC Poster (2021)

SCID/beige mice were dosed systemically with 5 mg/kg every 5 days through day 15. Data are shown as mean ± SEM with 5 mice per group.

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- PD-L1 Boltbody ISAC Program

BDC-3042 Builds on our Myeloid Biology Expertise to Grow & Diversify Pipeline

BDC-3042

Dectin-2-targeting agonist mAb

Dectin-2 agonist antibody

- Dectin-2 is selectively expressed by TAMs in most solid tumors
- Dectin-2 agonism activates TAMs & elicits anti-tumor immune response
- Lead agonist antibody binds to Dectin-2 & activates human TAMs

Preclinical Proof of Concept achieved

- Potent activator of human macrophages
  - Activates tumor-associated macrophages within human tumor samples
  - Elicits secretion of pro-inflammatory cytokines & chemokines (e.g., TNFα, IL-6, IL-1β, & CCL3)
- Mediates anti-tumor efficacy in humanized mouse model

Status

- IND-enabling activities underway
- Phase 1 initiation planned in 2023

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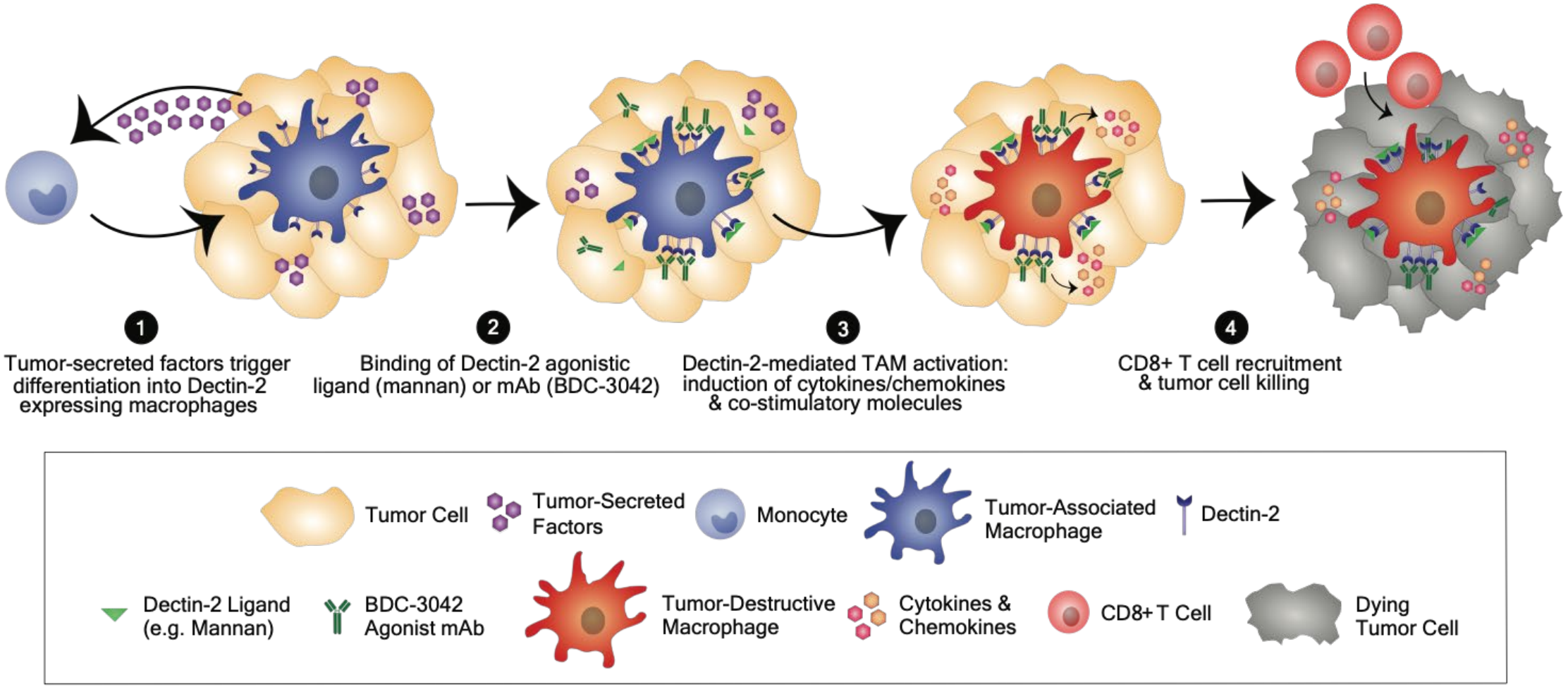
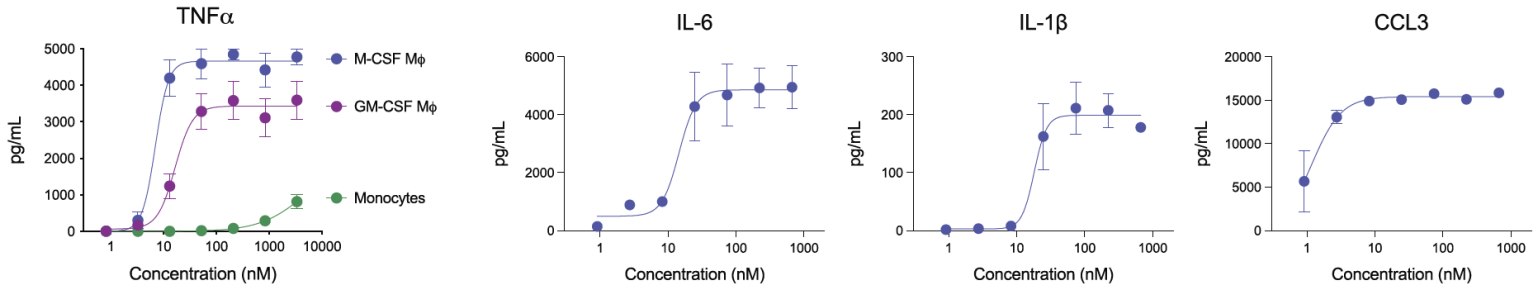
BDC-3042: Dectin-2 Agonism Activates TAMs & Elicits Anti-tumor Immune Response



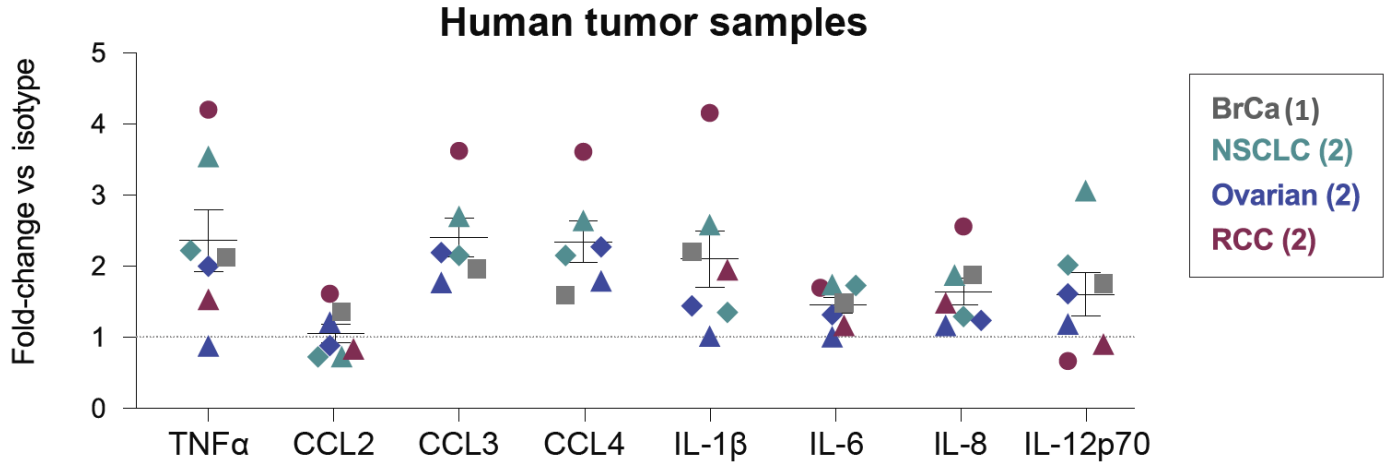
Kenkel JA, et al., AACR Poster (2022)

BDC-3042 Shows Potential for Anti-tumor Activity by Reprogramming Tumor-supportive Macrophages

Dectin-2 agonist mAb potently activates human macrophages



Dectin-2 agonist mAb activates primary human TAMs ex-vivo

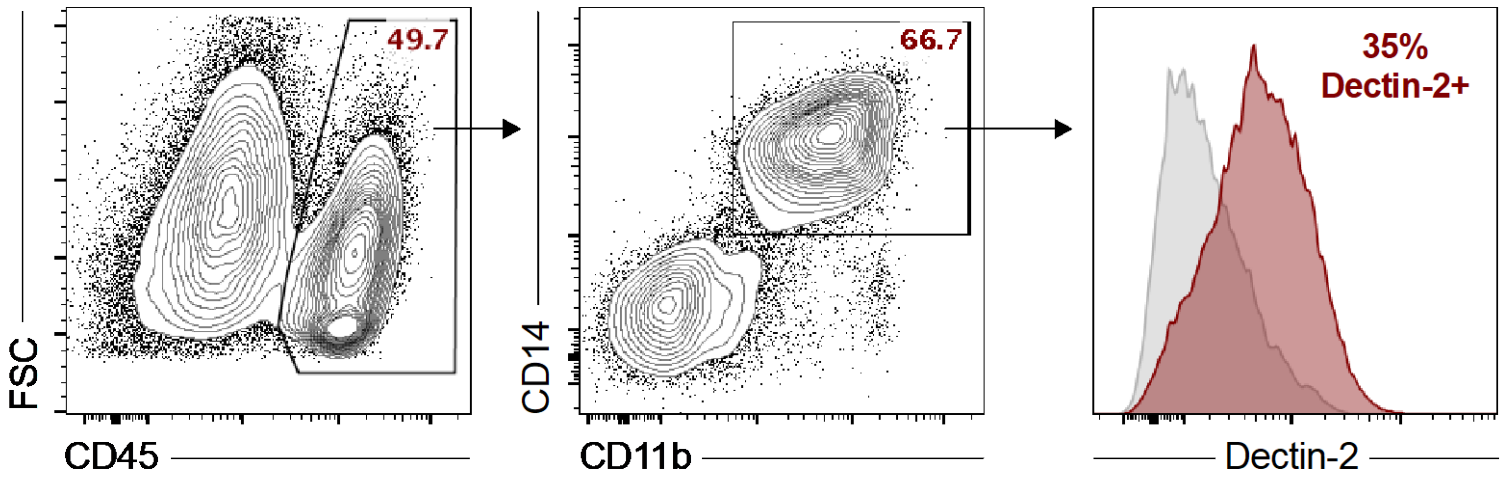


- Selectively expressed on tumor-supportive macrophages in a range of human cancers
- Dectin-2 agonism results in production of pro-inflammatory cytokines more consistent with characteristics of tumor-destructive myeloid cells
- Dectin-2 agonism can mediate tumor regression in syngeneic models
- KRAS & TP53 mutations may upregulate Dectin-2 on tumor-associated myeloid cells

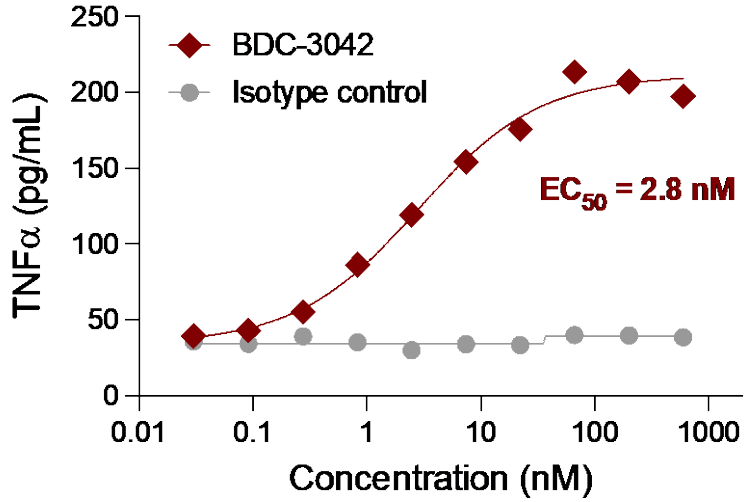
Kenkel JA, et al., SITC Poster (2021)

BDC-3042 Elicits Dose-dependent Activation of TAMs in Renal Cell Carcinoma

TAM frequency & Dectin-2 expression



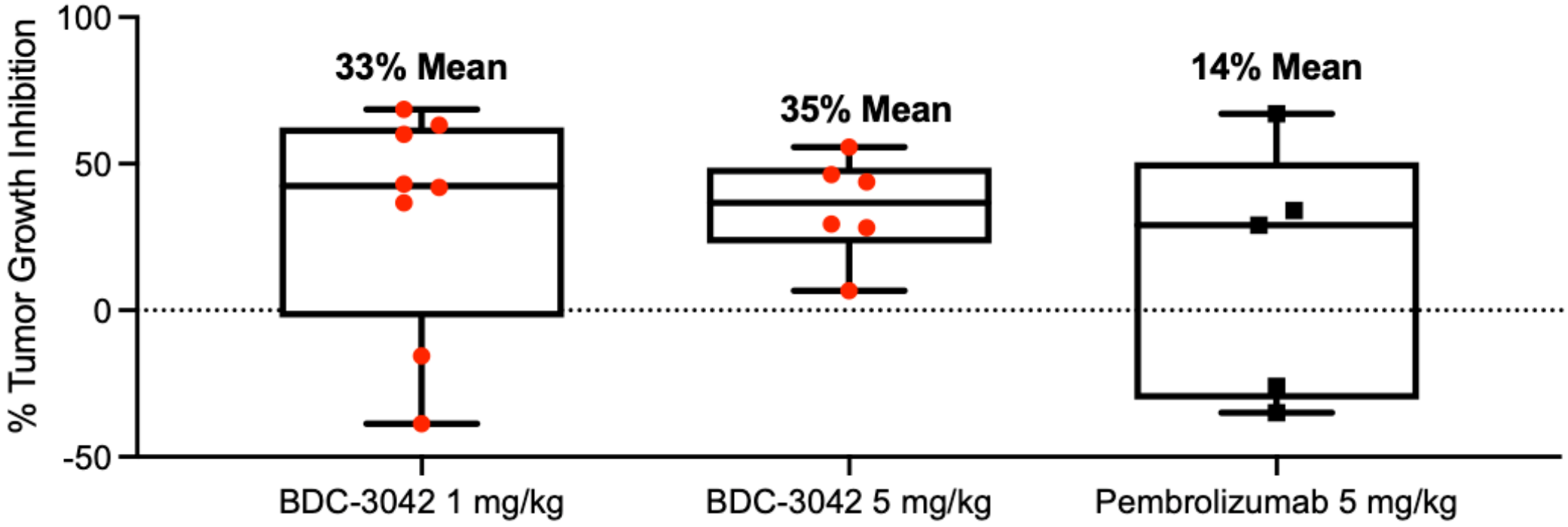
Cytokine response



TAMs were defined as viable CD45+CD11b+CD14+ cells.

Kenkel JA, et al., AACR Poster (2022)

BDC-3042 Mediates Anti-tumor Activity in Humanized Mice Bearing Triple-negative Breast Tumors (MDA-MB-231)



Each data point represents a unique HSC donor cohort

Kenkel JA, et al., AACR Poster (2022)

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Pipeline Overview

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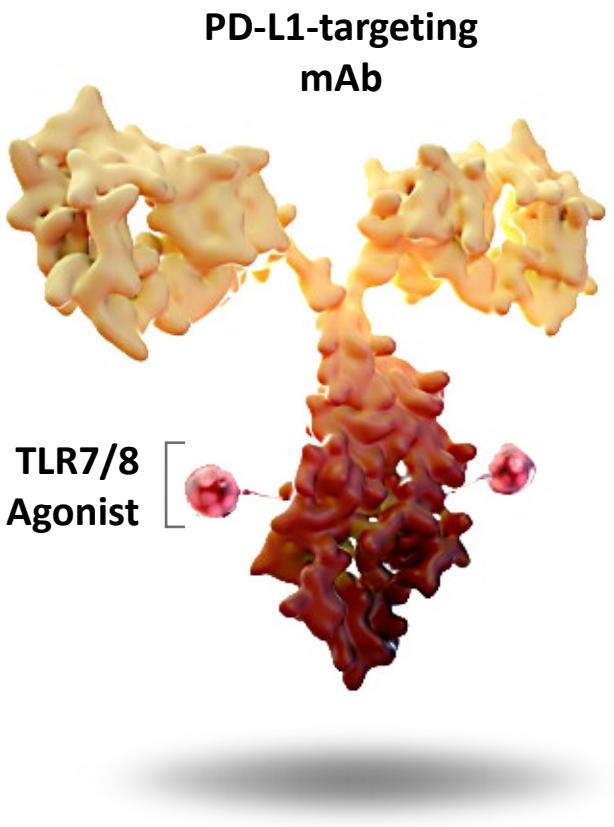
- **PD-L1 Boltbody ISAC Program**

PD-L1 Boltbody ISAC Program Combines ISAC Mechanism with Direct Myeloid Cell Activation & Checkpoint Inhibition

PD-L1 ISAC



PD-L1-targeting mAb conjugated to a proprietary TLR7/8 agonist with a non-cleavable linker

- Initial focus on tumors that are nonresponsive or refractory to immune checkpoint blockade
- Targets tumors expressing PD-L1 with ISAC mechanism, & shows activity in tumors without PD-L1 expression, indicating the broad potential of direct myeloid cell activation

Preclinical Proof of Concept achieved

- Robust activation of human myeloid APCs
- PD-L1 ISAC exhibits activity in syngeneic & xenograft models, even without any interaction with PD-L1 on immune cells
- Murine PD-L1 ISAC retains activity in syngeneic tumor models with or without PD-L1 expression

Status

- Continuing preclinical development, approaching clinical candidate selection

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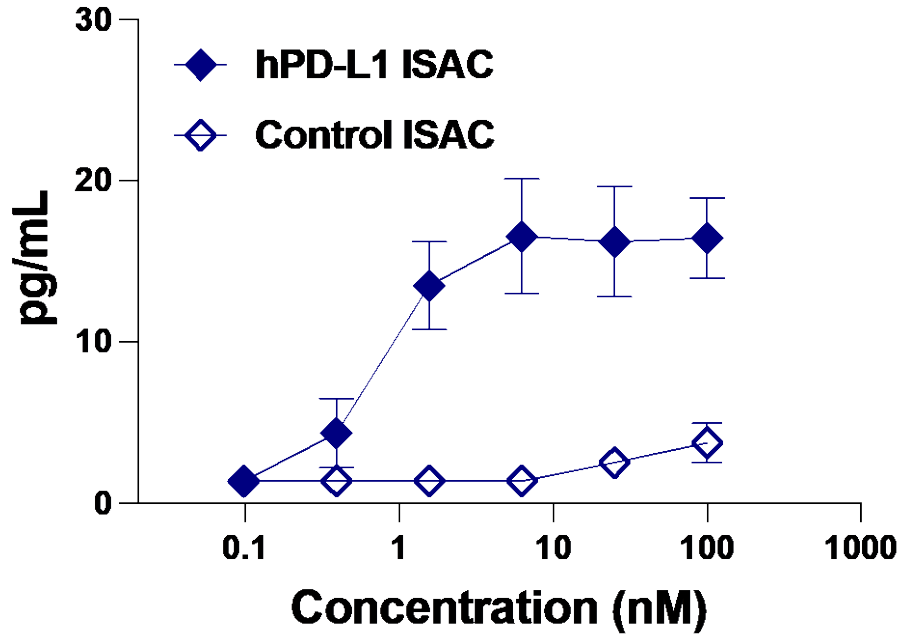
PD-L1 ISACs Directly Activate PD-L1-expressing Macrophages & Dendritic Cells

EC_{50} for IL-12 Secretion is Consistent with EC_{50} for Binding PD-L1 on Cells

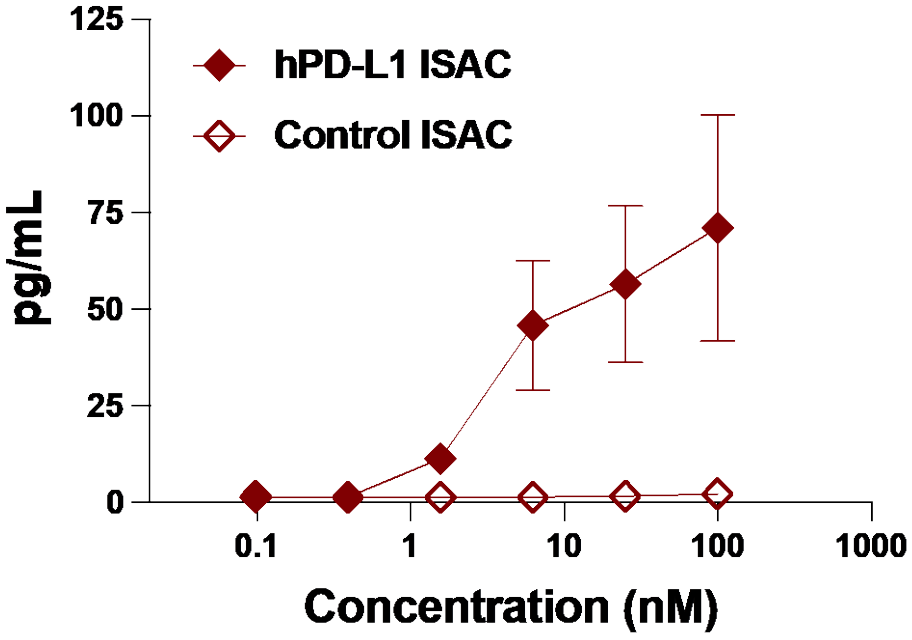
Direct Activation of PD-L1+ Macrophages

IL-12p70 Secretion



Direct Activation of PD-L1+ Dendritic Cells

IL-12p70 Secretion



Kenkel JA, et al., AACR Poster (2022)

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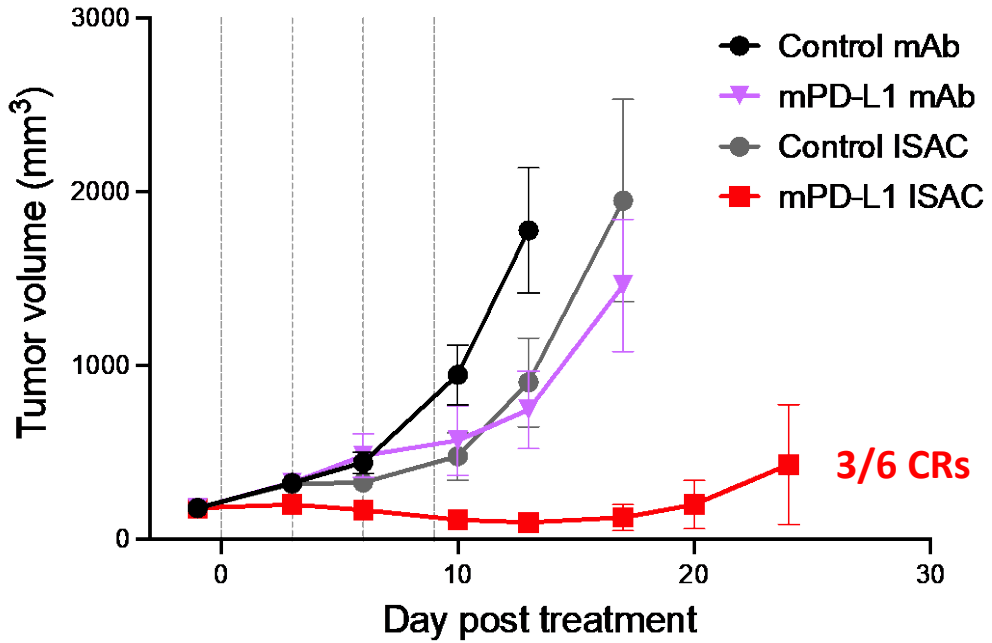
PD-L1 ISACs Elicit Complete Responses With or Without Tumor PD-L1 Expression

PD-L1 on Myeloid Cells Appears Sufficient for Anti-tumor Efficacy

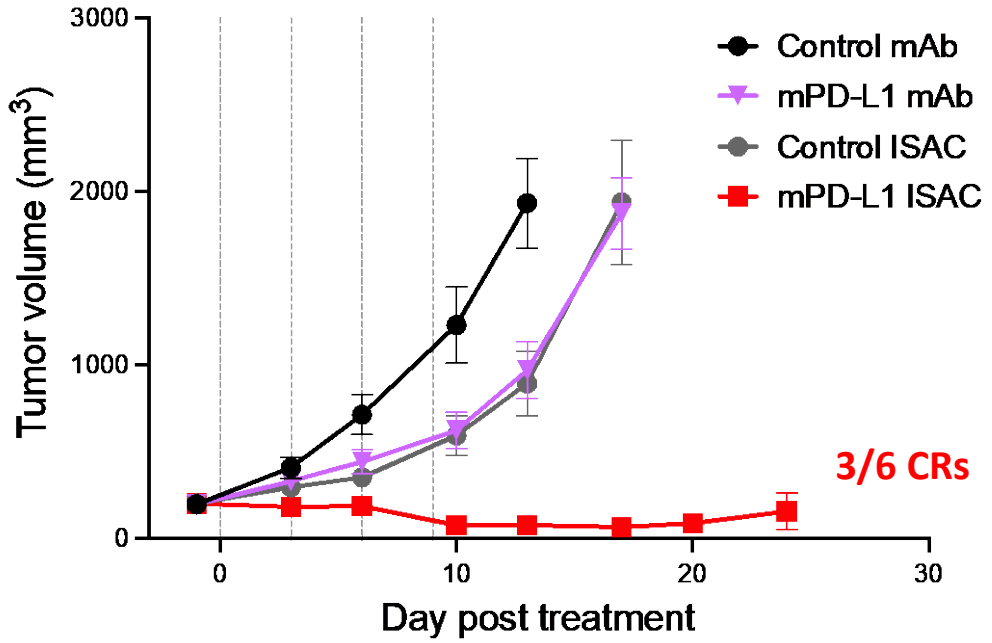
PD-L1 Expression on Tumor & Immune Cells

Parental MB49 Tumor Model



PD-L1 Expression on Immune Cells

PD-L1 Knockout MB49 Tumor Model



Kenkel JA, et al., AACR Poster (2022)

Summary

Progress in Our Pioneering Journey

First-in-class Boltbody™ ISAC: BDC-1001

- Ongoing dose escalation is exploring weekly (q1w) dosing to optimize exposure in subjects with HER2-expressing solid tumors
  - Includes combination with Opdivo® (PD-1 inhibitor)
- BDC-1001 has been well tolerated with early signs of clinical activity including a durable PR & changes in biomarkers (data as of 10/6/21)

Broadly Enabling Platform Technology

- Pipeline of proprietary programs builds on myeloid biology expertise
- Multiple collaborations extend our pipeline cost-free

Cash on Hand Achieves Key Milestones

- Cash of $246.8 million[1] expected to fund operations into 2024
- Funded through key milestones for BDC-1001, BDC-2034, & BDC-3042

[1] Cash, cash equivalents, and marketable securities as of March 31, 2022
Opdivo® is a trademark of Bristol-Myers Squibb Company

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Thank You