



**Breakthrough Biologics,
Life-changing Medicines**

Corporate Update

January 6, 2019



Legal Notices

The information in this slide deck is current as of January 6, 2019, unless otherwise noted. The information in this slide deck is qualified in its entirety by reference to MacroGenics' Annual, Quarterly and Current Reports filed with the SEC. MacroGenics undertakes no obligation to update any of the information herein.

Cautionary Note on Forward-Looking Statements

Any statements in these materials about future expectations, plans and prospects for MacroGenics ("Company"), including statements about the Company's strategy, future operations, clinical development of the Company's therapeutic candidates, milestone or opt-in payments from the Company's collaborators, the Company's anticipated milestones and future expectations and plans and prospects for the Company and other statements containing the words "subject to", "believe", "anticipate", "plan", "expect", "intend", "estimate", "project", "may", "will", "should", "would", "could", "can", the negatives thereof, variations thereon and similar expressions, or by discussions of strategy constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the uncertainties inherent in the initiation and enrollment of future clinical trials, expectations of expanding ongoing clinical trials, availability and timing of data from ongoing clinical trials, expectations for regulatory approvals, other matters that could affect the availability or commercial potential of the Company's product candidates and other risks described in the Company's filings with the Securities and Exchange Commission. In addition, the forward-looking statements included in this presentation represent the Company's views only as of the date hereof. The Company anticipates that subsequent events and developments will cause the Company's views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so, except as may be required by law. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date hereof.

Trademarks

DART, TRIDENT, MacroGenics, the MacroGenics logo and "Breakthrough Biologics, Life-Changing Medicines" are trademarks or registered trademarks of MacroGenics, Inc. The Incyte logo is a registered trademark of Incyte Corporation. The Merck logo is a trademark of Merck Sharp & Dohme Corp.

Committed to Developing Life-changing Medicines



Innovative Combinatorial Approaches

Nine immuno-oncology clinical candidates

Fc optimization platform to **enhance antibodies'** immune activation

Leading bispecific **DART® platform** to exploit **multiple mechanisms**

Multi-program "franchises" around high-value targets (B7-H3, PD-1)



Resourced for Success

\$260M Cash @ 9/30/18^(a)

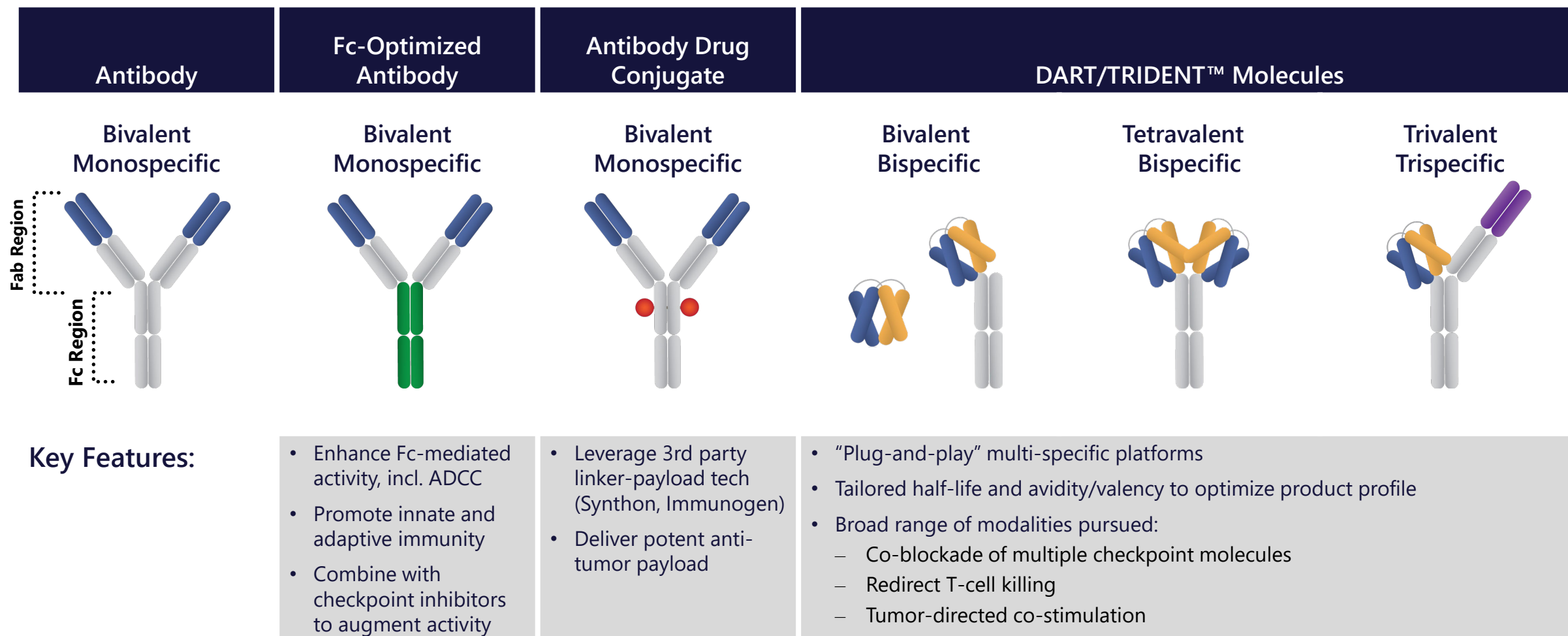
Multiple alliances with leading biopharma companies

Commercial scale GMP manufacturing facility

367 Employees @ 1/3/19
(Rockville, MD & SF Bay Area)

(a) Includes cash equivalents and marketable securities.

Ability to Engineer Broad Array of Antibody Formats



Our Growing Immuno-Oncology Pipeline

Retain major market commercial rights for 8 of 9 development candidates

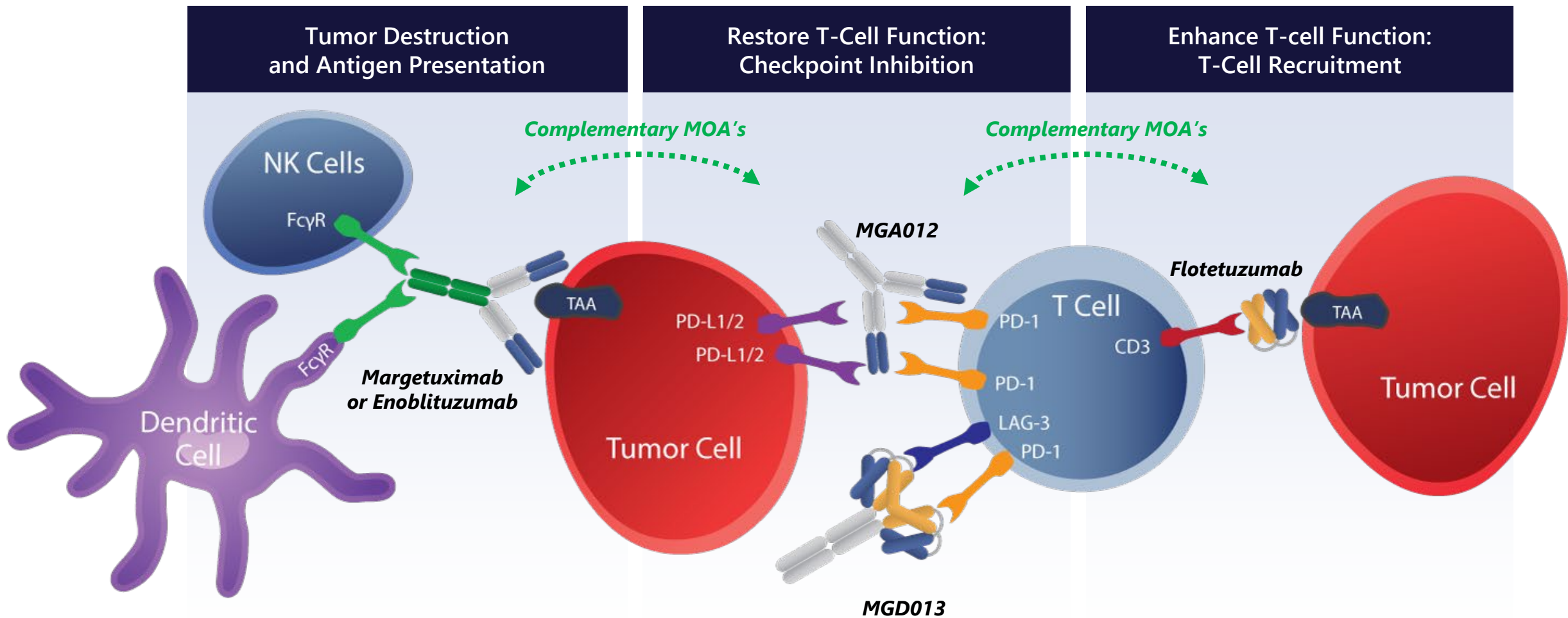
	Program (Target)	Potential Indication	Pre-IND	Phase 1	Phase 2	Phase 3	Collaborator	Our Commercial Rights	
	Margetuximab (HER2)	Breast (HER2+) "SOPHIA"					Green Cross, Zai Lab	Worldwide, excluding South Korea and Greater China	
		Gastric (+anti-PD-1)							
B7-H3	Enoblituzumab (B7-H3)	Solid Tumors (+anti-PD-1)					—	Worldwide	
	MGD009 (B7-H3 × CD3) ^(a)	Solid Tumors					—	Worldwide	
		Solid Tumors (+MGA012)							
		MGC018 (B7-H3) ^(b)	Solid Tumors					—	Worldwide
PD-1	MGA012 (PD-1)	Solid Tumors					Incyte ^(c)	—	
	MGD013 (PD-1 × LAG-3)	Solid Tumors/Heme Mal.					Zai Lab	Worldwide, excluding Greater China	
	MGD019 (PD-1 × CTLA-4)	Solid Tumors					—	Worldwide	
		Flotetuzumab (CD123 × CD3)	AML					Servier	North America, Japan, Korea, India
		AML (+MGA012)							
	MGD007 (gpA33 × CD3)	Colorectal (+MGA012)					—	Worldwide	
							"MGD" = DART	"MGA" = Antibody	"MGC" = ADC

(a) MGD009 program subject to partial clinical hold as of December 6, 2018.

(b) MGC018 is an antibody-drug conjugate (ADC) based on a duocarmycin payload with cleavable peptide linker that was licensed from Synthon Biopharmaceuticals.

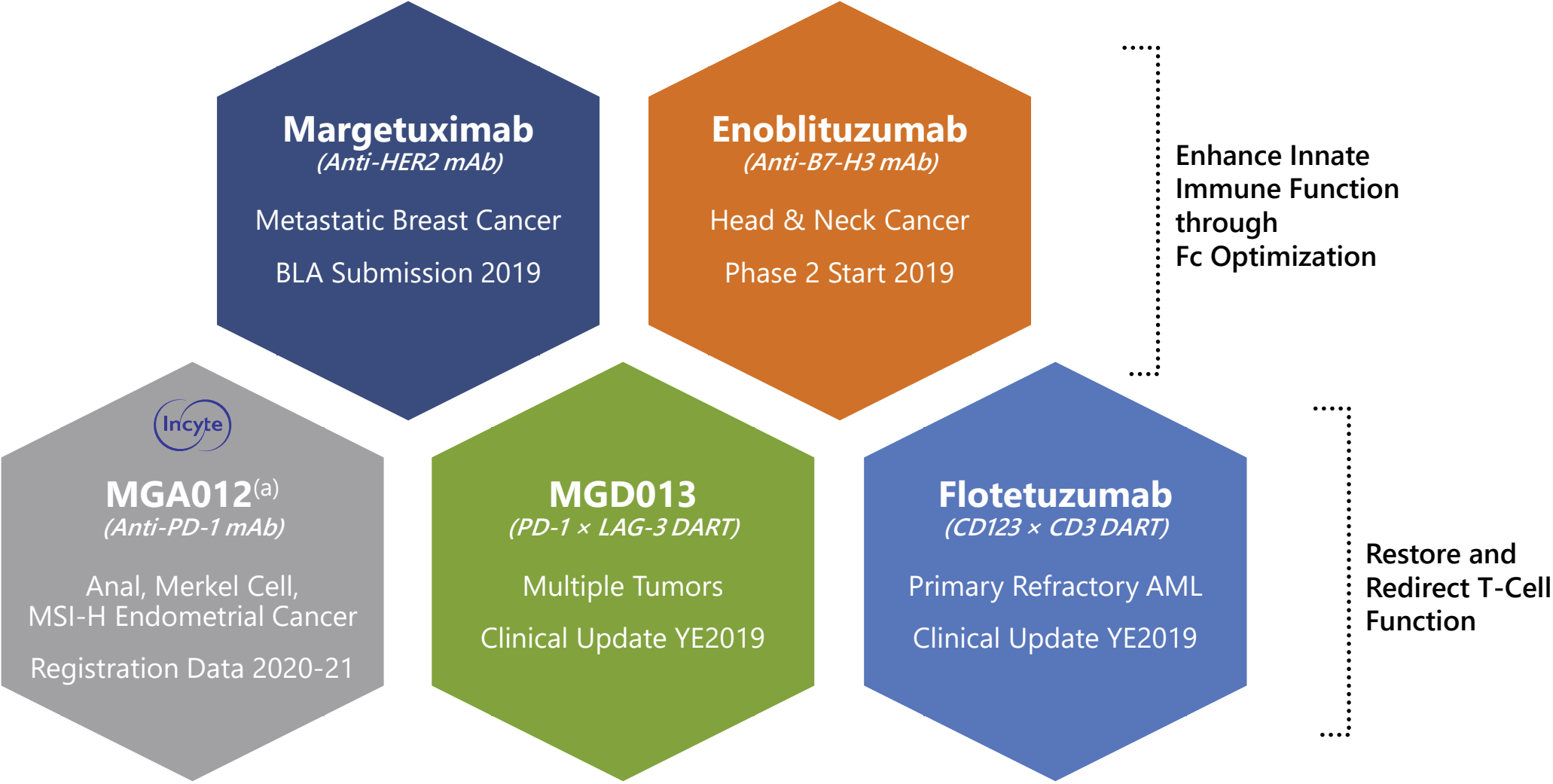
(c) MacroGenics retains rights to develop its pipeline assets in combination w/MGA012 and to manufacture a portion of global clinical and commercial supply needs of MGA012. Incyte designates this molecule as "INCMGA0012".

Building Competitive Advantage Around Combinatorial Mechanisms



TAA: tumor-associated antigen

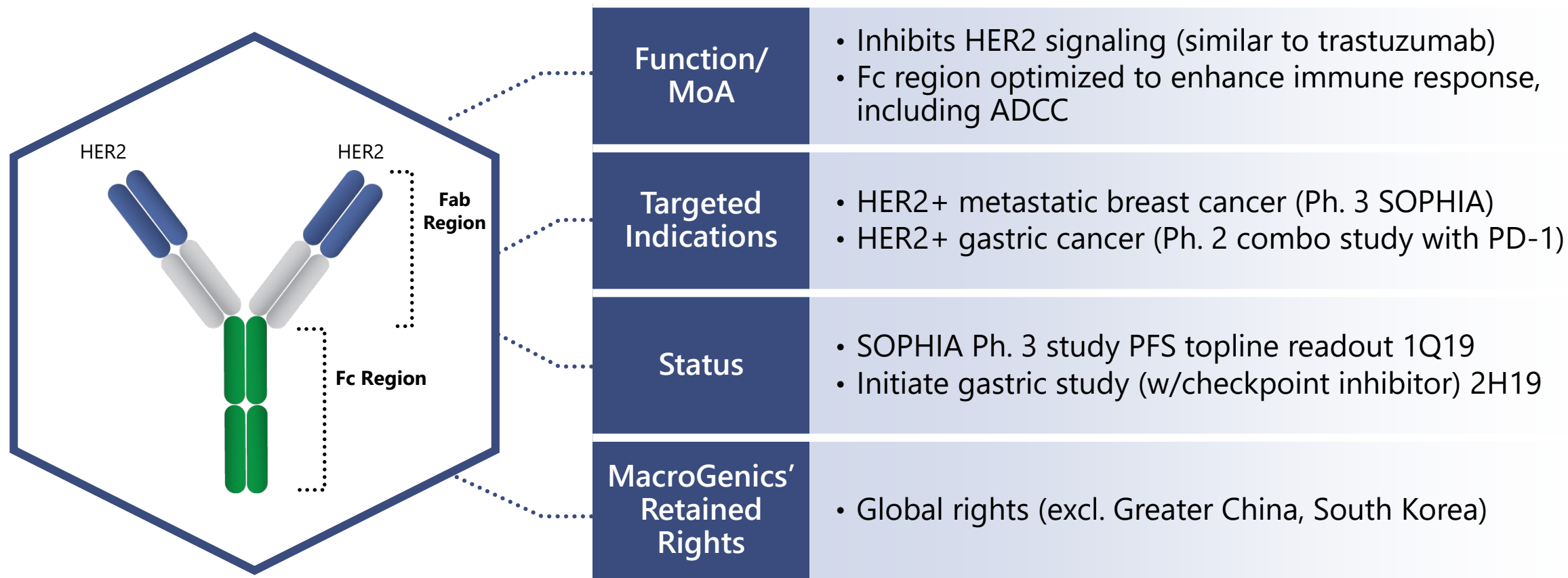
Near-Term Milestones Anticipated Across Core Programs



(a) MacroGenics retains rights to develop its pipeline assets in combination with MGA012 and to manufacture a portion of global clinical and commercial supply needs of MGA012.

Margetuximab: Potential Best-in-Class Anti-HER2 mAb

Engineered to enhance activation of immune system



3rd/4th Line HER2+ Metastatic Breast Cancer Represents Attractive Entry Point

mBC Line of Therapy	1 st Line	2 nd Line	3 rd /4 th Line
Annual # of Patients ^(a)	~19,200	~16,000	~18,800
Standard of Care	Trastuzumab + pertuzumab + taxane (docetaxel)	T-DM1 (ado-trastuzumab emtansine)	No consensus (lapatinib + capecitabine; trastuzumab + different chemo)
Median OS	56.5 months ^(b)	30.9 months ^(c)	15.8 months ^(d)
Median PFS	18.5 months ^(b)	9.6 months ^(c)	3.3 months ^(e)
ORR	80.2% ^(b)	43.6% ^(c)	8.6%

(a) US/EU5 Data from 9/13/18 Roche Virtual Late Stage Pipeline Event

(b) Baselga, et al. – *CLEOPATRA Study Group*; Perjeta package insert

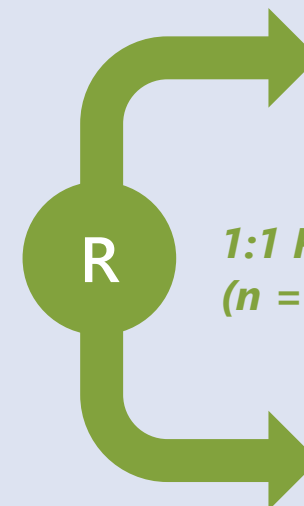
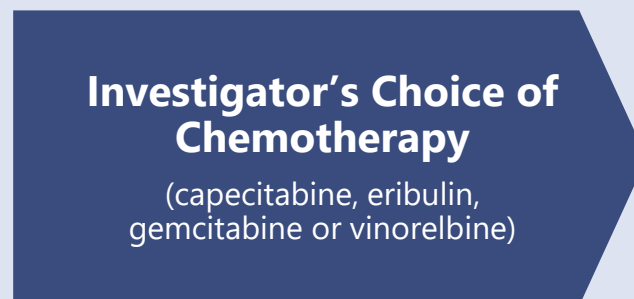
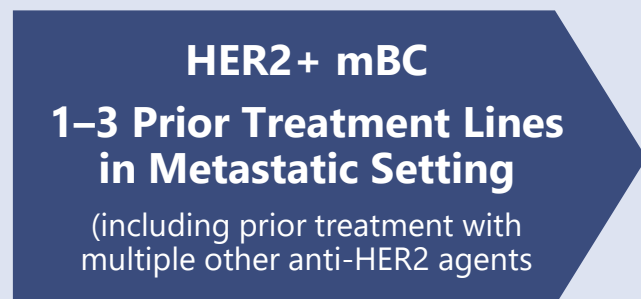
(c) Verma, et al. – *EMILIA Study Group*; Kadcyla package insert

(d) Krop, et al., *The Lancet* (June 2017) – TH3RESA Study Group

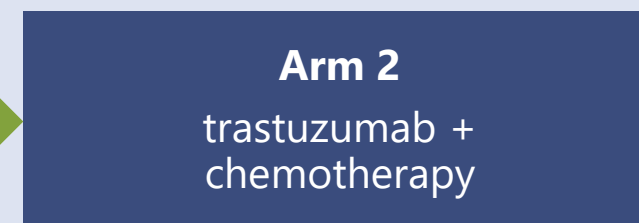
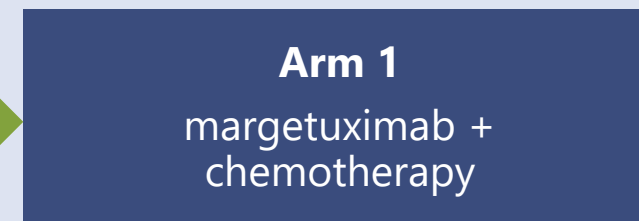
(e) Krop, et al., *The Lancet* (May 2014) – TH3RESA Study Group

Phase 3 Study Designed to Establish Superiority to Trastuzumab

Anticipate topline results 1Q19



**1:1 Randomization
(n = 530)**



of Global sites: ~200

Sequential primary endpoints: Progression-Free Survival & Overall Survival:

PFS (N=257, HR=0.67, $\alpha=0.05$, power=90%)

OS (N=385, HR=0.75, $\alpha=0.05$, power=80%)

Fully Enrolled Phase 2 Study in Advanced Metastatic Gastric Cancer

Anticipate data disclosure from gastric cancer (HER2 3+) cohort in 1Q19

Dose Escalation

(n=3-6 per margetuximab dose)

**Margetuximab 10 – 15 mg/kg q3w
+ pembrolizumab 200 mg q3w**



Dose Expansion #1

*(margetuximab 15 mg/kg q3W
+ pembrolizumab 200 mg q3W)*

**Gastric and Gastroesophageal
(n=51)**

Dose Expansion #2

*(margetuximab 15 mg/kg q3W
+ pembrolizumab 200 mg q3W)*

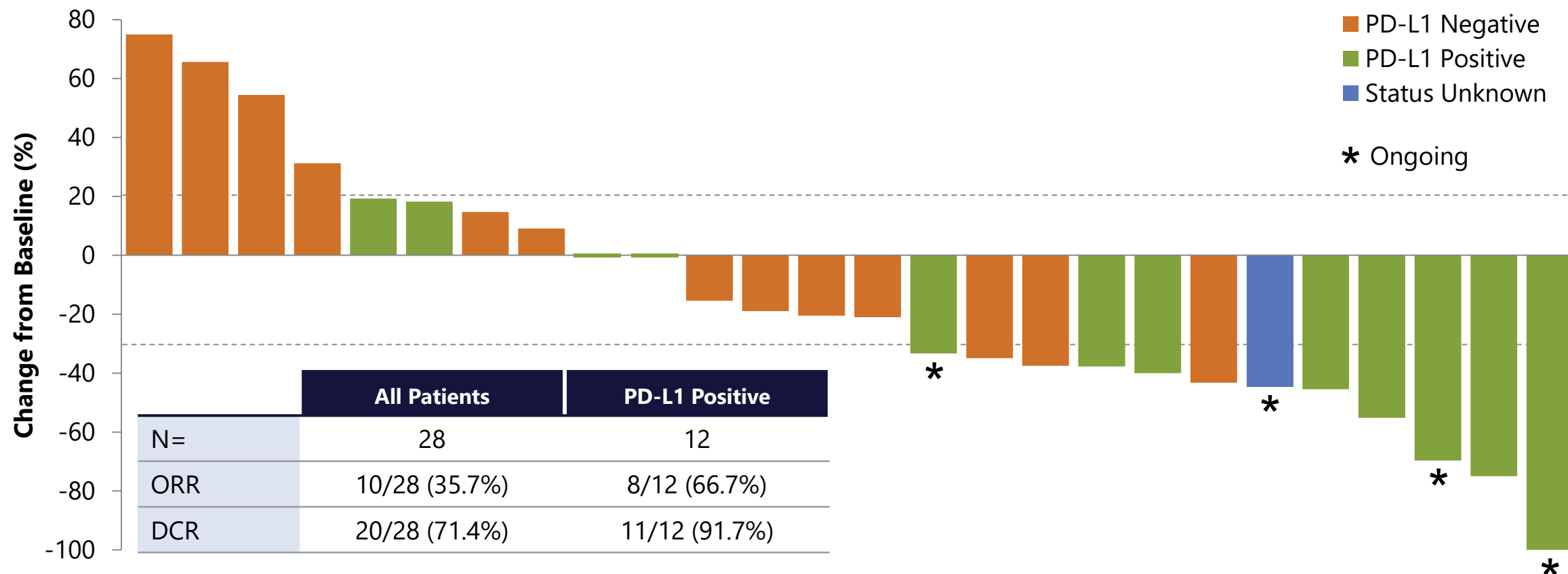
*Data to be presented
at ASCO GI 2019*

Gastric (HER2 3+) (n=25)

Treatment	• Potential for chemotherapy-free regimen • Margetuximab and pembrolizumab administered day 1 of every 3 week cycle
Inclusion/Exclusion Criteria	• Received ≥ 1 prior line of chemotherapy treatment • No prior immunotherapy
Endpoints	• Primary: safety, tolerability and efficacy (as evaluated by objective response rate (ORR)) of combo • Secondary: PFS, OS, immunogenicity

Promising Activity in Gastric Cancer Subpopulation of Dose Expansion #1

36% ORR in HER2 3+(by IHC)^(a) gastric cancer



(a) The immunohistochemistry (IHC) test gives a score of 0 to 3+ that measures the amount of HER2 receptor protein on the surface of cells in a cancer tissue sample. If the score is 0 to 1+, it's called "HER2 negative." If the score is 2+, it's called "borderline." A score of 3+ is called "HER2 positive".

(b) "PD-L1 Positive" is Combined Positive Score (per standard FDA approved assay) $\geq 1\%$ (PD-L1 tested on archival tissue by IHC; clone 22C3 pharmDx).

(c) Data presented at ESMO October 2018, with supplemental results for same patient population as of December 10, 2018; includes patients who received at least one M+P dose and had baseline measurable disease.

HER2+ Gastric Cancer Therapeutic Landscape

Margetuximab+PD-1 has potential to displace 2nd line standard-of-care therapy

	1 st Line	2 nd Line					3 rd Line
	SOC	SOC		Ongoing	Failed		SOC ^(g)
Agent (Study)	Trastuzumab + Chemo ^(a) (TOGA)	Ram. + Paclitaxel ^(b) (RAINBOW)	Ram. ^(c) (REGARD)	Marge. + Pembro. ^(d) (Ongoing Ph.2)	✗ T-DM1 ^(e) (GATSBY)	✗ Pembro. ^(f) (KEYNOTE-61)	Anti-PD-1: Nivo. ^(h) / Pembro. ⁽ⁱ⁾
ORR	47%	28%	3%	36%	20.6%	15.8% (PD-L1+)	11.2 ^(h) – 13.3% ⁽ⁱ⁾ PD-L1+ = 15.5% ⁽ⁱ⁾ PD-L1– = 5.5% ⁽ⁱ⁾
Median PFS	6.7 mos.	4.4 mos.	2.1 mos.	5.5 mos.	2.7 mos.	1.5 mos.	1.6 ^(h) – 2 mos. ⁽ⁱ⁾
Median OS	13.1 mos.	9.6 mos.	5.2 mos.	13.3 (GC+GEJ); GC not reached	7.9 mos.	9.1 mos.	5.3 ^(h) – 5.6mos. ⁽ⁱ⁾
≥ Grade 3 TRAEs	68% (Black Box Warn.)	Overall: N/A 41% Neutropenia 15% Hypertension 12% Fatigue (Black Box Warn.)	Overall: N/A 8% Hypertension (Black Box Warn.)	20% (GC+GEJ)	60% (Black Box Warn.)	14.3%	10 ^(h) – 18% ⁽ⁱ⁾
Gastric/GEJ Patient Mix	80/20%	80/20%	75/25%	100% (IHC 3+ Gastric)	66/34%	Not disclosed	90/10% (excl. 'unknown')

SOC = Standard of Care

(a) Data from Herceptin package insert; Bang, et al., *Lancet*, 2010; Black box warning: cardiomyopathy, infusion reactions, embryo-fetal toxicity and pulmonary toxicity.

(b) Data from Cyramza package insert; Wilkes et al., *Lancet Oncology*, 2014; Black box warning: hemorrhage, GI perforation, impaired wound healing.

(c) Data from Cyramza package insert; Fuchs, et al., *Lancet* 2014.

(d) Data presented at ESMO 2018.

(e) Data from Thuss-Patience, et al., *Lancet Oncology*, 2017; Black box warning: hepatotoxicity, cardiac toxicity, embryo-fetal toxicity.

(f) Data presented at ASCO 2018 Abstract 4062.

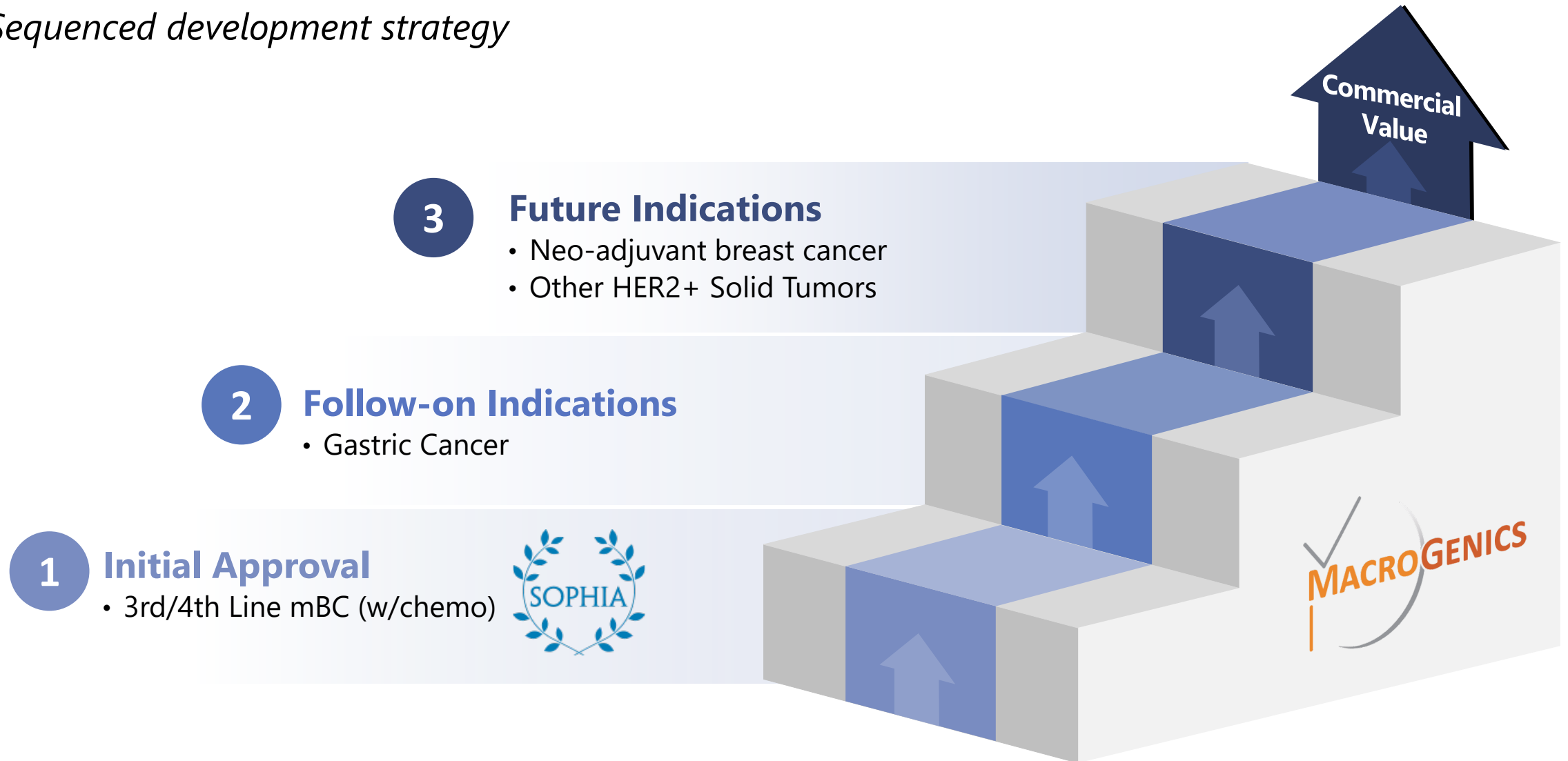
(g) Note: Avelumab (anti-PD-L1) failed 3L JAVELIN Gastric300 study (Merck KGaA and Pfizer press release, November 28, 2017).

(h) ATTRACTION-2 poster ASCO-GI 2017; Kang, et al., *Lancet*, 2017.

(i) Keytruda package insert; KEYNOTE-059, ESMO 2017.

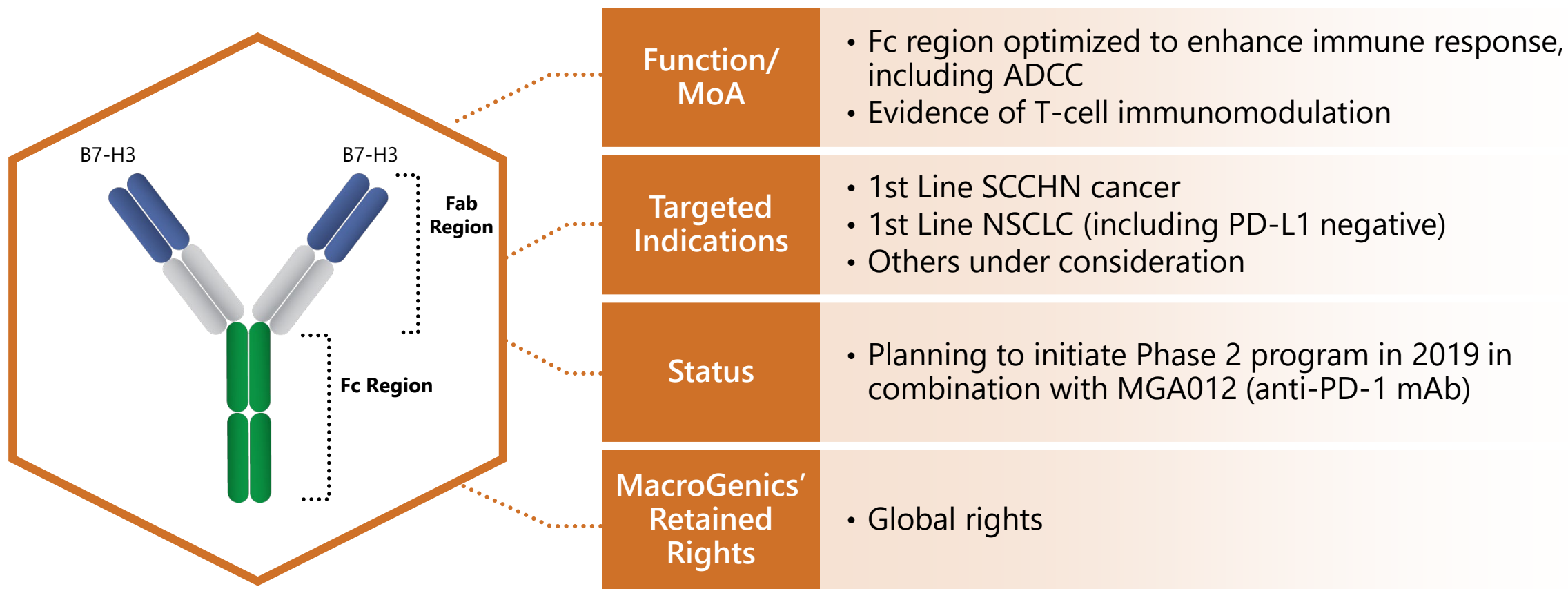
Capturing Full Potential of Margetuximab

Sequenced development strategy



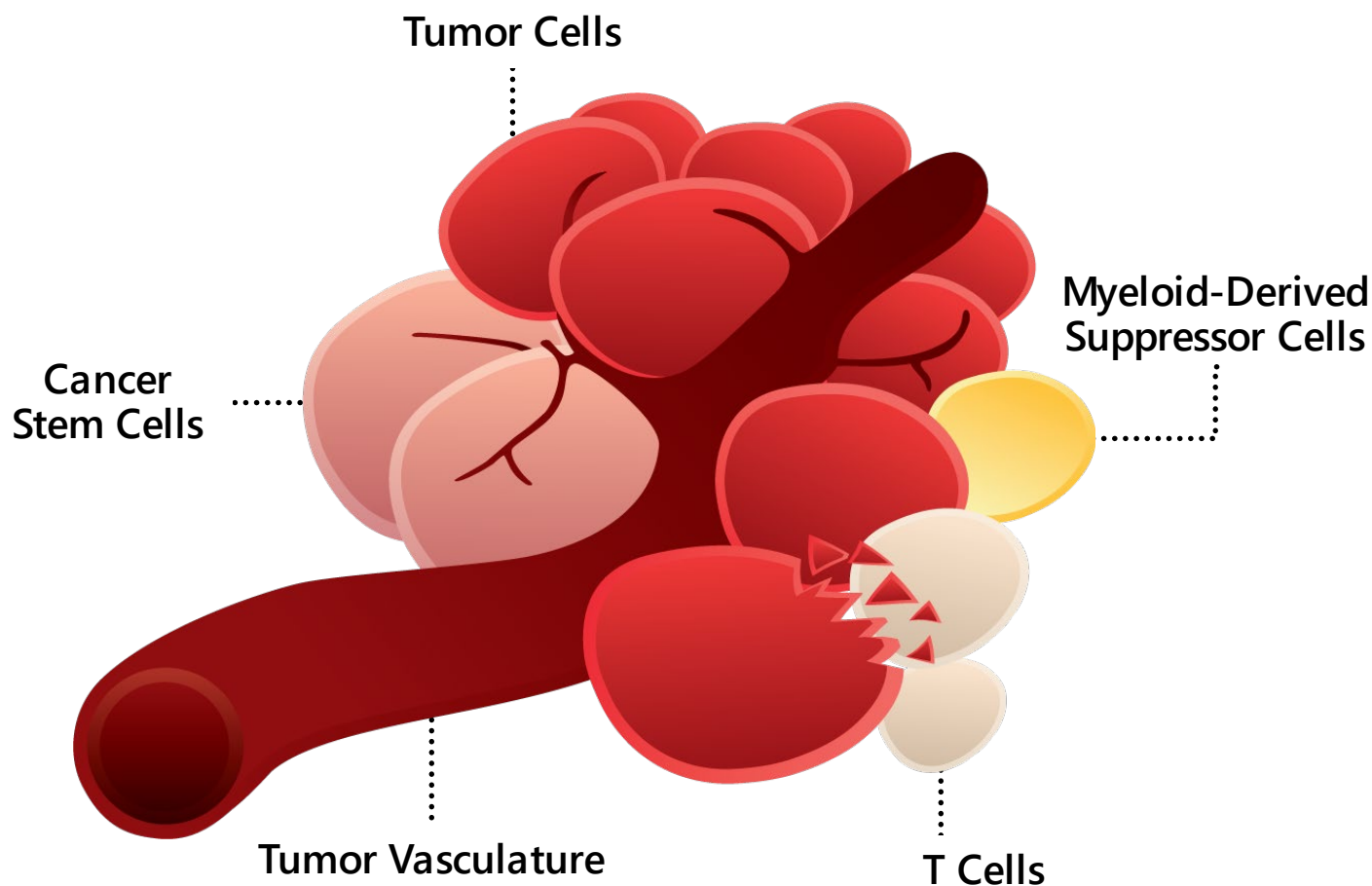
Enoblituzumab: Potential Leading Anti-B7-H3 mAb

Leveraging immune modulation through Fc optimization



Rationale for Targeting B7-H3 in Cancer

Associated with adverse clinical features and outcome in various solid tumors



Expression on:

- Primary tumor & metastases
- Cancer stem cells
- Tumor stroma and vasculature

Potential immunological role

- Inhibition of T-cell activation
- Correlated with lack of response to anti-PD-1 therapy^(a)

Tumor-autonomous role

- Migration & invasion
- Tumor metabolic advantage
- Associated with chemotherapy resistance

(a) Yonesaka, et al., CCR, 2018

Confirmed High Penetrance in Broad Set of Solid Tumors

Majority of B7-H3 positive tumors express high levels of B7-H3 ($\geq 2+$)

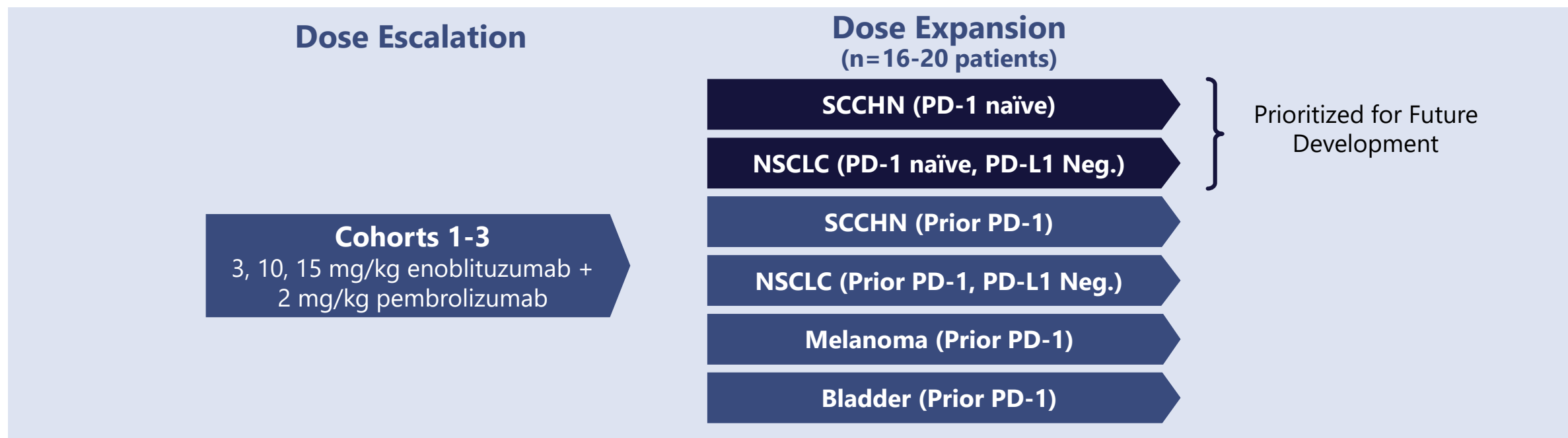
<i>Potential Indications:</i>		IHC Summary of >1,400 Tumor Tissue Samples Screened			
		B7-H3 Positive ^(a)		2+ or Above	
Enoblituzumab +Anti-PD-1 Combination Study Indications Evaluated	● Head and Neck	19/19	100%	19/19	100%
	Kidney Cancer	77/78	99%	75/78	96%
	Glioblastoma	65/66	98%	63/66	95%
	Thyroid Cancer	34/35	97%	33/35	94%
	Mesothelioma	41/44	93%	39/44	89%
	● Melanoma	132/146	90%	94/146	64%
	Prostate Cancer	88/99	89%	51/99	52%
	Pancreas Cancer	69/78	88%	45/78	58%
	● Bladder	134/156	86%	123/156	79%
	● Lung Cancer	324/379	85%	300/379	79%
	Breast Cancer	189/249	76%	156/249	63%
	Ovarian Cancer	59/79	75%	36/79	46%

Limited expression in normal tissue → favorable profile for targeting B7-H3

(a) B7-H3 positivity reflects any grade staining via fixed tumor microarray; B7-H3 is expressed on tumor as well as tumor vasculature.

Fully Enrolled Enoblituzumab + anti-PD-1 mAb Study in B7-H3⁺ Tumors

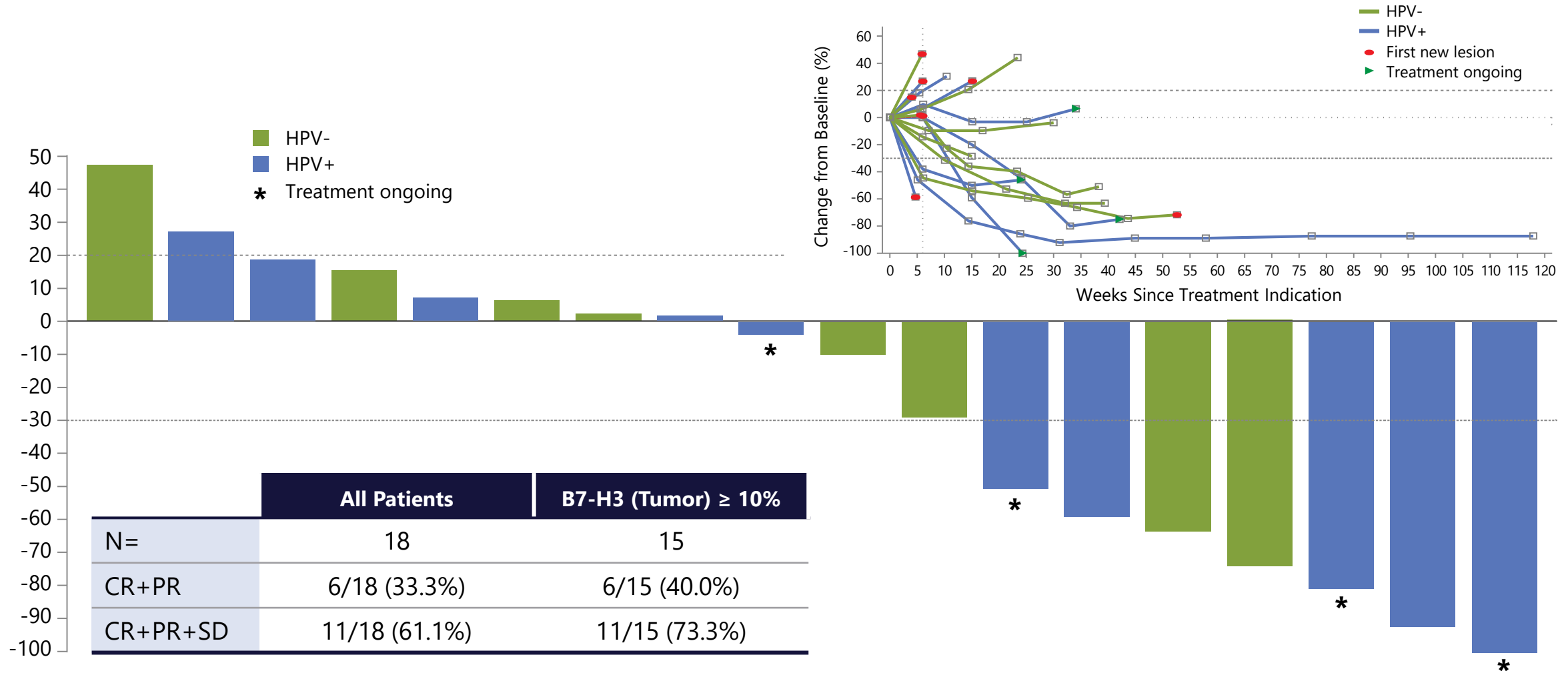
Oral presentation at SITC 2018



Treatment	Incorporate chemotherapy-free regimen based on combo with pembrolizumab
Inclusion/Exclusion Criteria	- Received ≥1 prior line of chemotherapy and TKI treatment - B7-H3 agnostic (retrospective testing) - NSCLC cohorts: tumor PD-L1 expression <1% by DAKO IHC
Endpoints	- Primary: safety, tolerability and efficacy (as evaluated by objective response rate) of combo - Secondary: PFS, OS, immunogenicity

Antitumor Activity in SCCHN Patients (Anti-PD-1/PD-L1 Naïve)

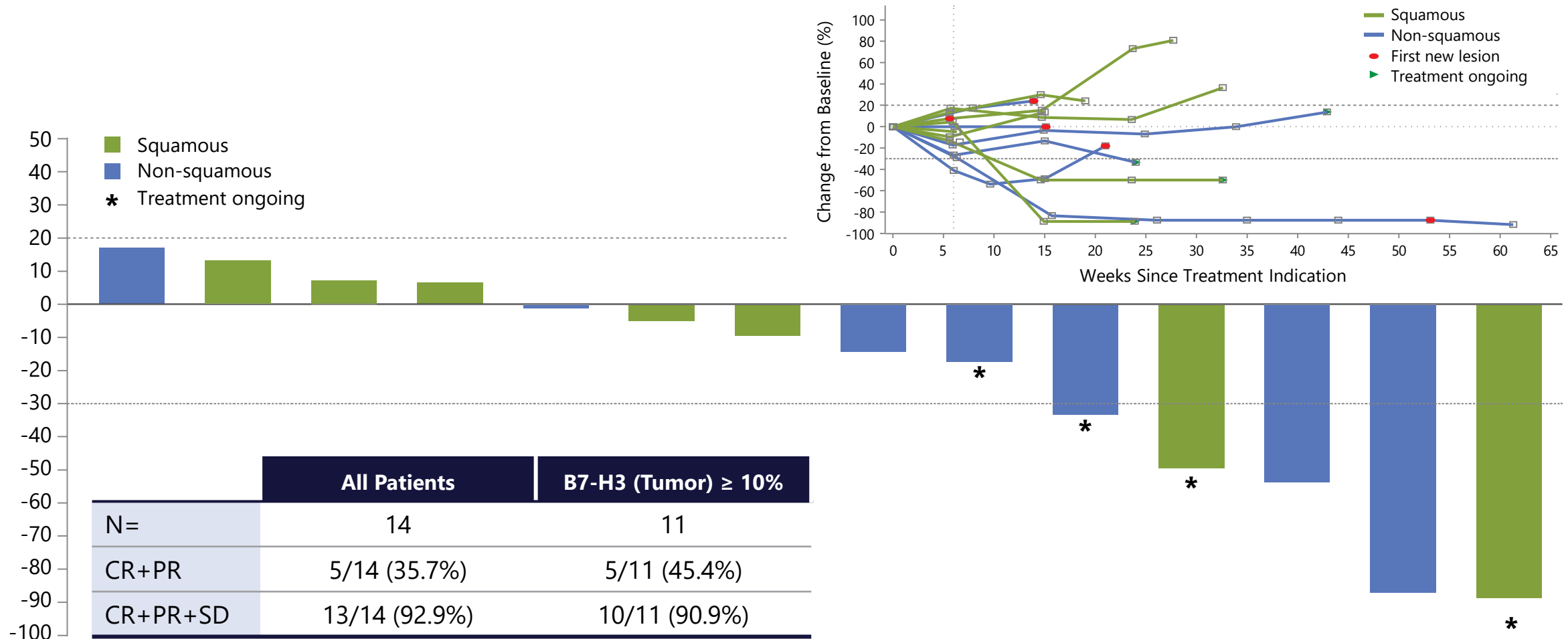
Induction of tumor regression in SCCHN patients, irrespective of HPV status



Source: SITC 2018 Oral Presentation O24; Data cut-off date: October 12, 2018

Antitumor Activity in NSCLC Patients (Anti-PD-1/PD-L1 Naïve)

Induction of tumor regression in NSCLC patients with < 1% PD-L1



Source: SITC 2018 Oral Presentation O24; Data cut-off date: October 12, 2018

Encouraging Enoblituzumab + Anti-PD-1 Combo Data

SCCHN	Study Results			
Agent (Study)	Enoblituzumab + Pembrolizumab	Nivolumab (CM-141) ^(a)	Pembrolizumab (KN-012) ^(b)	Pembrolizumab (KN-040) ^(c)
N	18	240	174	247
ORR	33.3%	13%	16%	15%

NSCLC	Study Results			
Agent (Study)	Enoblituzumab + Pembrolizumab	Nivolumab (CM-057) ^(d)	Nivolumab (CM-017) ^(e)	Pembrolizumab (KN-001) ^(f)
Histology	Both	Non-Squamous	Squamous	Both
PD-L1 Status	PD-L1 < 1%	PD-L1 < 1%	PD-L1 < 1%	PD-L1 < 1%
N	14	108	54	87
ORR	35.7%	9%	17%	8%

(a) Ferris, et al., 2016, *N Eng J Med*

(b) Keytruda® package insert

(c) Cohen, et al., 2017, *ESMO LBA45*

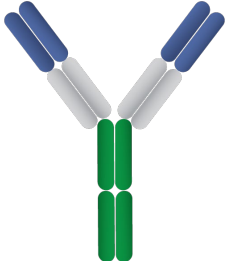
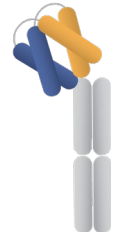
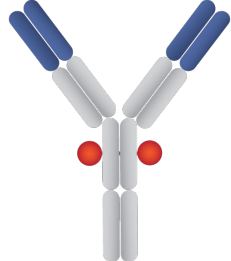
(d) Borghaei, et al., 2015, *NEJM*

(e) Brahmer, et al., 2015, *NEJM*

(f) Garon, et al., 2015, *NEJM*

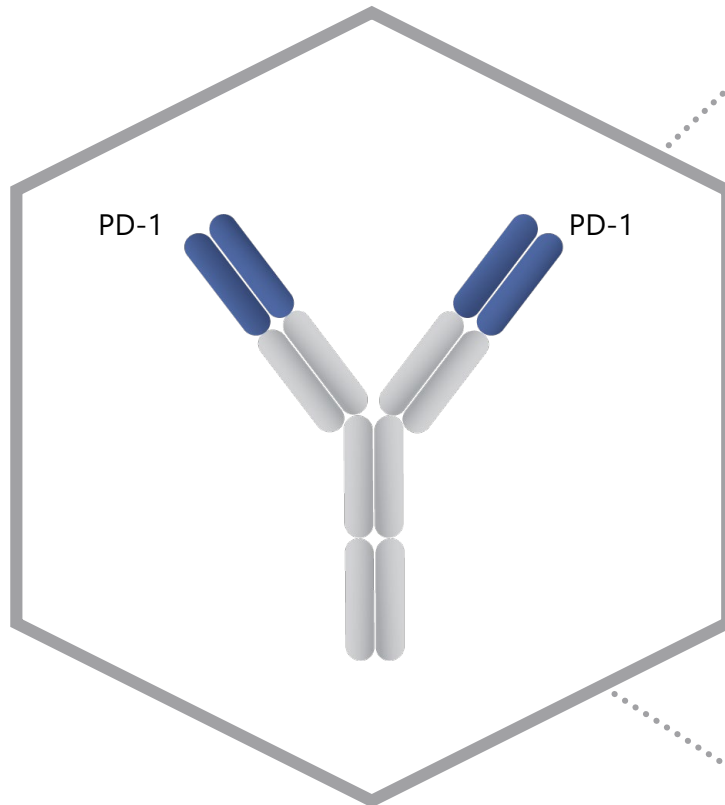
B7-H3 Franchise: Three Molecules with Complementary Mechanisms

MacroGenics retains global rights

	Enoblituzumab	MGD009	MGC018
Candidate	Fc-optimized mAb 	B7-H3 × CD3 DART (Fc-bearing) 	B7-H3 Antibody-Drug Conjugate 
Intended MoA	- Fc-mediated tumor cell killing - Potential enhancement of adaptive immune responses	- Recruitment and expansion of T cells - Potent redirection of T cells to kill tumor cells	- Direct tumor killing - Leverage Synthon's linker/payload
Current Development Status	Combo study with anti-PD-1 oral pres. at SITC 2018	Phase 1 monotherapy and combo studies on partial clinical hold (response submitted to FDA Dec. 2018)	Phase 1 study initiated

MGA012 Global Collaboration with Incyte

Significant development effort across multiple studies



Function/ MoA	- Humanized, hinge-stabilized IgG4 mAb - Inhibits PD-1, with initial activity profile similar to anti-PD-1 mAb benchmarks
Status	- Phase 1 results presented at SITC 2018 - Multiple ongoing monotherapy and combo studies - Registration data projected in 2020-21
Global Incyte Transaction	\$150M Upfront cash payment - Up to \$750M in milestones (\$15M received in 2018) - Tiered royalties of 15-24% on future MGA012 sales
MacroGenics' Retained Rights	- Develop pipeline assets in combination with MGA012 - Manufacture portion of global MGA012 supply



MGA012: Building a Pipeline within a Product

Monotherapy



Registration Intent^(a)

MSI-High Endometrial Cancer 	Merkel Cell Carcinoma 	Anal Cancer
~8,500 patients/year	~1,300 patients/year	~5,000 patients/year
Pembro provides POC	Avelumab provides POC	Pembro/Nivo provide POC
Data Expected 2020	Data Expected 2020	Data Expected 2021

Combination Therapy Multiple tumors



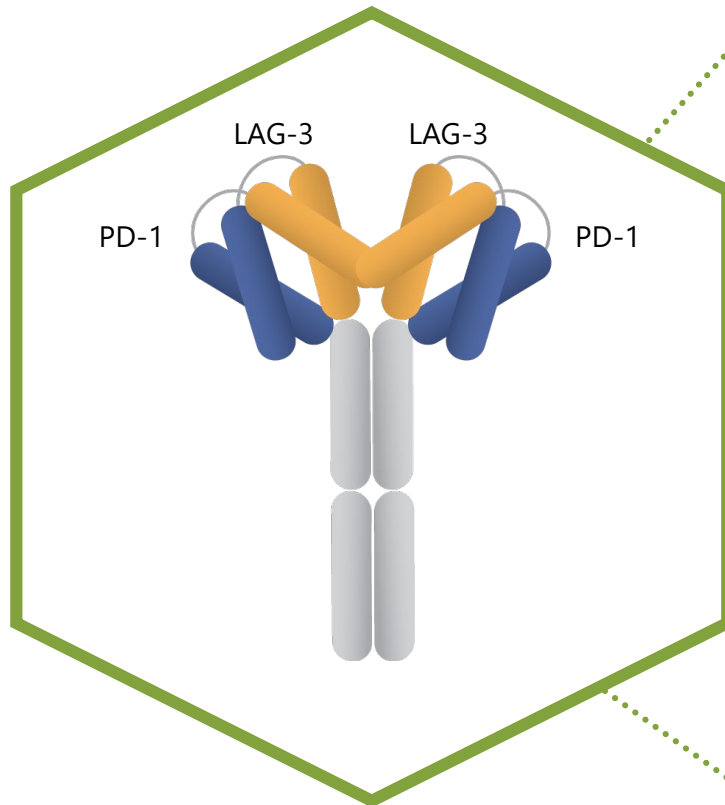
Epacadostat (IDO) 	Parsaclisib (PI3Kδ)
MGD007 (gpA33 × CD3) 	MGD009 (B7-H3 × CD3)
Margetuximab (HER2) 	Enoblituzumab (B7-H3)
Flotetuzumab (CD123 × CD3) 	MGC018 (B7-H3 ADC)

Initiated

Planned

(a) Epidemiological estimates are for US, EU and Japan. Source: Incyte Corporation.

MGD013: First Bispecific Checkpoint Molecule in Clinic



Function/ MoA

- Simultaneous and/or independent blockade of two checkpoint molecules
- Reactivation of exhausted T cells

Targeted Indications

- Patients with solid and liquid tumors:
 - Progressed on prior checkpoint inhibitor
 - Checkpoint-naïve

Status

- Ongoing Ph. 1 dose expansion in nine tumor types
- Exploring correlative biomarkers (with Nanostring)

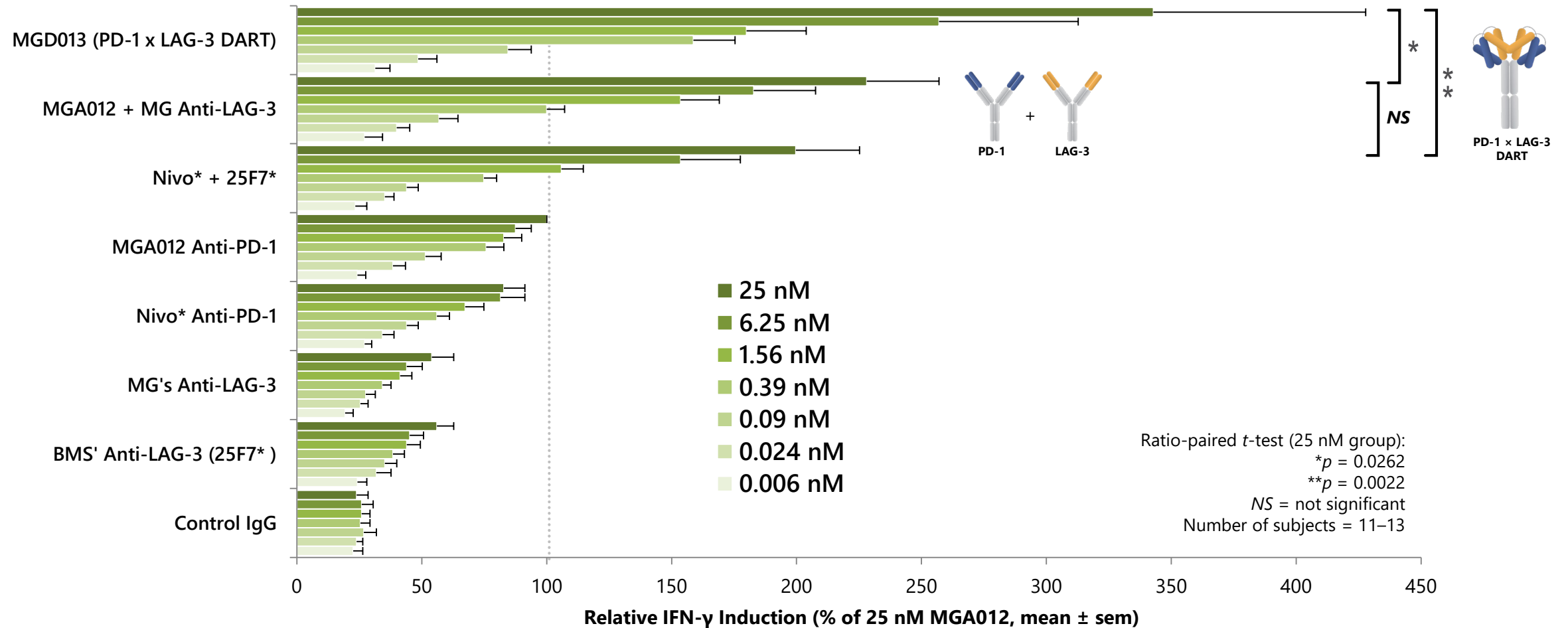
MacroGenics' Retained Rights

- Global rights (excl. Greater China)

MGD013: Synergistic T-cell Activation

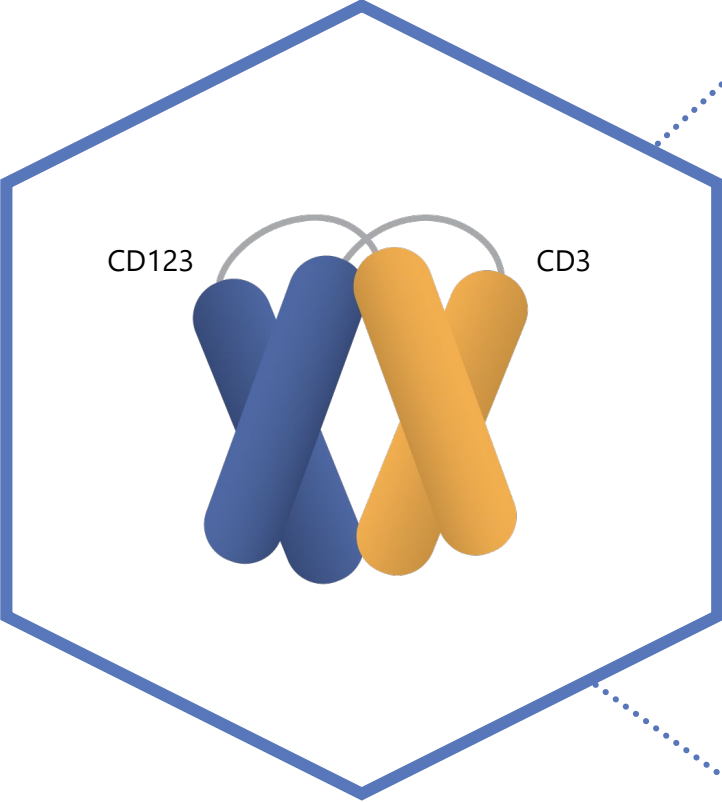
DART construct enhances T-cell activation vs. anti-PD-1 + anti-LAG-3 mAbs

Enhancement of Primary T-cell Response Following SEB Stimulation

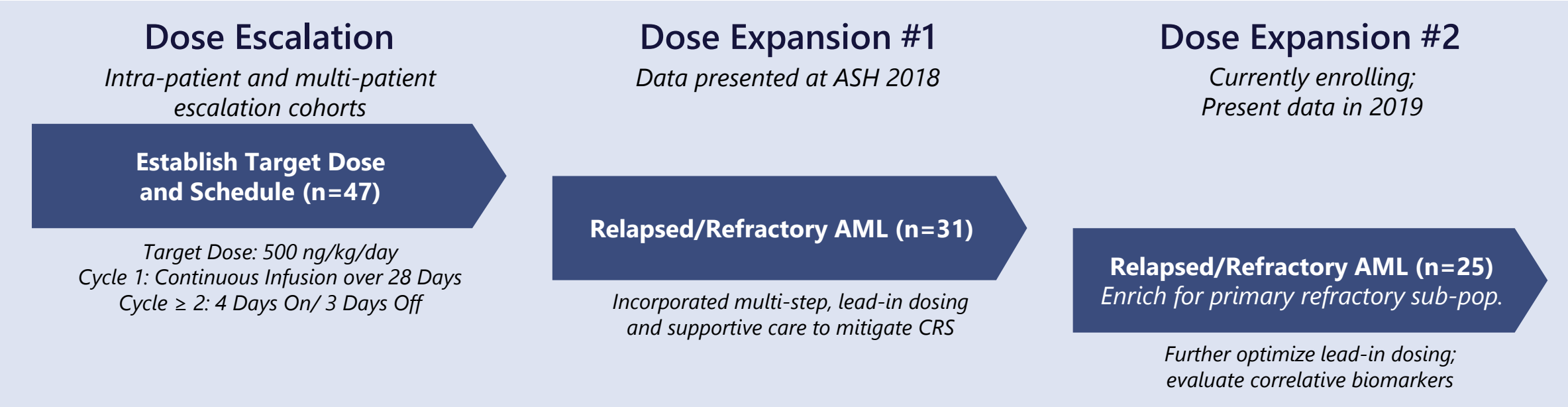


*IFN γ release by 25 nM MGA012 = 3276 $\pm$ 744 pg/ml.

Flotetuzumab: CD123 × CD3 DART Molecule

	Function/ MoA	• Redirected T-cell killing against leukemia cells – Eliminates leukemic stem cells – Spares normal hematopoietic stem cells – Engages any T-cell without HLA-restriction
	Targeted Indications	• Acute Myeloid Leukemia (AML) • Other hematologic neoplasms, including B-cell ALL
	Status	• ASH 2018 oral presentation • Ongoing/future studies will: – Enrich for primary refractory and biomarker-selected AML patients – Evaluate combo with MGA012 (anti-PD-1 mAb)
	MacroGenics' Retained Rights	• MacroGenics: exclusive rights in North America, Japan, Korea and India • Servier: exclusive rights in other territories

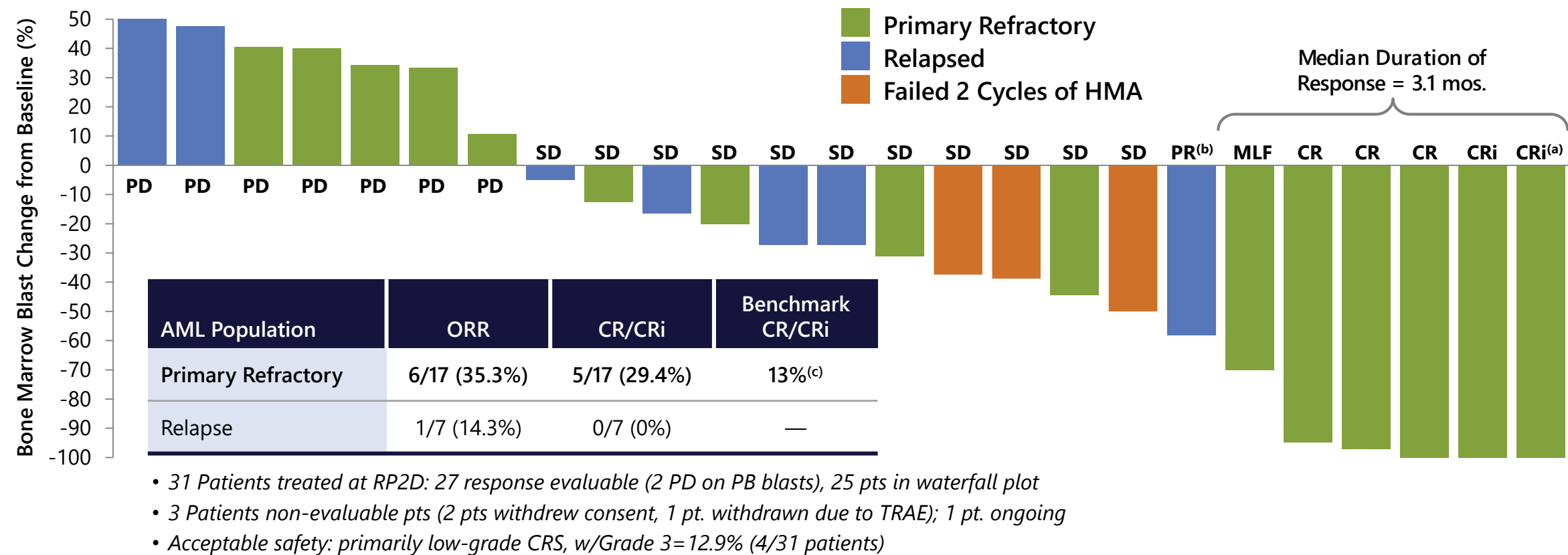
Flotetuzumab: Phase 1/2 Study Design



Inclusion/Exclusion Criteria	• Primary refractory population: – Refractory to ≥2 induction attempts, <u>or</u> – 1st relapse with initial CR duration of <6 months, <u>or</u> – HMA failure to ≥4 cycles • Relapsed population (initial CR >6 months) • No prior allogeneic hematopoietic cell transplant
Endpoints	• Safety and disease status assessed by modified IWG criteria • Gene expression profiling performed using NanoString® PanCancerIO 360™ assay

Primary Refractory AML Patients Have Been Most Responsive to Flotetuzumab

Dose expansion #1 data presented at ASH 2018



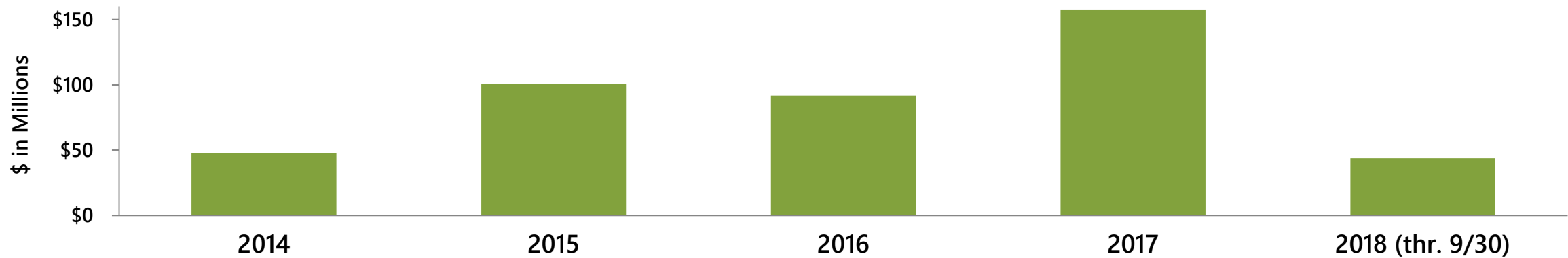
Source: ASH 2018 Oral Presentation #764; Data cut-off date: Nov. 1, 2018
 CR=Complete Response; CRi=Complete Response with incomplete hematological improvement; MLF=Morphologic Leukemia-free state; PR=Partial Response; SD=Stable Disease; PD=Treatment Failure
 (a) Patient subsequently underwent HSCT in remission
 (b) Patient with PR had duration of response = 1.4 months
 (c) CR/CRp rate reported by Kantarjian, et al. (Cancer 2018) in large-scale analysis of chemotherapy-based salvage therapy in primary refractory AML patients

Financial Overview

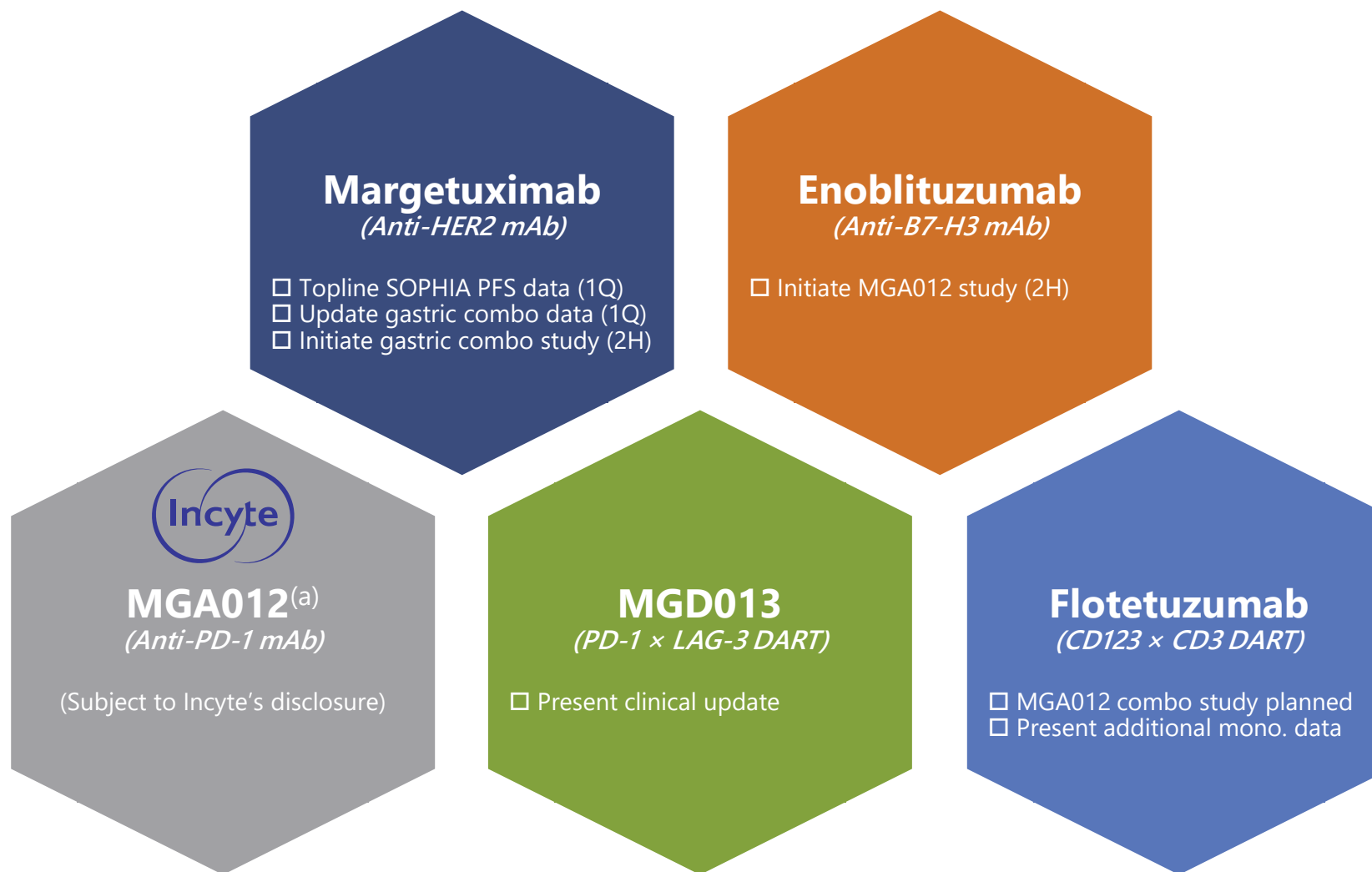
- \$260M Cash, cash equivalents and marketable securities as of 9/30/18
- Historical financial details:

\$ in Millions	2014	2015	2016	2017	9 Mos. Ended Sep. 30,	
					2017	2018
Total Revenues	\$48	\$101	\$92	\$158	\$5	\$44
R&D Expense	70	98	122	147	108	174
Total Operating Expenses	86	121	152	180	132	174
Cash & Investments	158	339	285	305	204	260

- Revenues from collaborative and government agreements (> \$440M since 2013 IPO):



Anticipated Progress of Core Programs in 2019



(a) MacroGenics retains rights to develop its pipeline assets in combination with MGA012 and to manufacture a portion of global clinical and commercial supply needs of MGA012.

Thank You!



Investor Relations Inquiries:

Jim Karrels – Senior Vice President, CFO
301-354-2681 | karrelsj@macrogenics.com

Karen Sharma – Senior Vice President
MacDougall Biomedical Communications
781-235-3060 | ksharma@macbiocom.com

Business Development Inquiries:

Eric Risser – Senior Vice President, Chief Business Officer
301-354-2640 | rissere@macrogenics.com

www.macrogenics.com

Link to our latest presentations:
<http://ir.macrogenics.com/events.cfm>

