

Battling Cancer with Bispecific Antibodies

March 2017

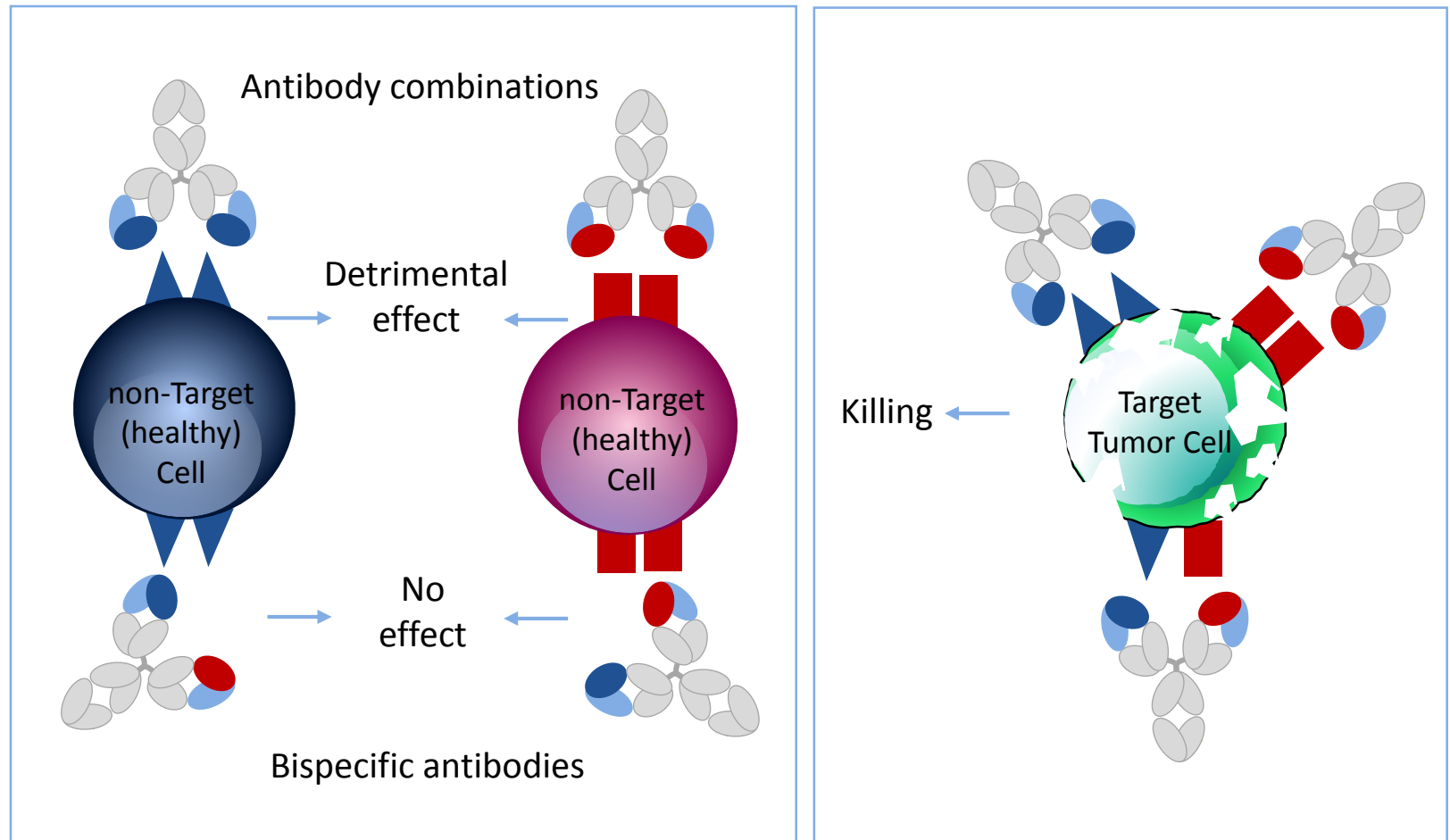
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This presentation (including any oral commentary that accompanies this presentation) contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this presentation that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation statements regarding the impact our Biclomics® platform can have on cancer, our product candidates' potential to treat certain types of tumors, the timing of regulatory filings and the timing and anticipated results from our clinical trials. These forward-looking statements are based on management's current expectations. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, the following: we have incurred significant losses, are not currently profitable and may never become profitable; our need for additional funding, which may not be available and which may require us to restrict our operations or require us to relinquish rights to our technologies or bispecific antibody candidates; potential delays in regulatory approval, which would impact our ability to commercialize our product candidates and affect our ability to generate revenue; the unproven approach to therapeutic intervention of our Biclomics® technology; our limited operating history; economic, political, regulatory and other risks involved with international operations; the lengthy and expensive process of clinical drug development, which has an uncertain outcome; the unpredictable nature of our early stage development efforts for marketable drugs; potential adverse public reaction to the use of cancer immunotherapies; potential delays in enrollment of patients, which could affect the receipt of necessary regulatory approvals; failure to obtain marketing approval internationally; failure to compete successfully against other drug companies; potential competition from other drug companies if we fail to obtain orphan drug designation or maintain orphan drug exclusivity for our products; our reliance on third parties to conduct our clinical trials and the potential for those third parties to not perform satisfactorily; our reliance on third parties to manufacture our product candidates, which may delay, prevent or impair our development and commercialization efforts; protection of our proprietary technology; our patents being found invalid or unenforceable; potential lawsuits for infringement of third-party intellectual property; our ability to attract and retain key personnel; managing our growth could result in difficulties; and we may lose our foreign private issuer status and incur significant expenses as a result.

These and other important factors discussed under the caption "Risk Factors" in our final prospectus filed with the Securities and Exchange Commission, or SEC, on May 20, 2016 relating to our Registration Statement on Form F-1, and our other reports filed with the SEC could cause actual results to differ materially from those indicated by the forward-looking statements made in this presentation. Any such forward-looking statements represent management's estimates as of the date of this presentation. While we may elect to update such forward-looking statements at some point in the future, we disclaim any obligation to do so, even if subsequent events cause our views to change.

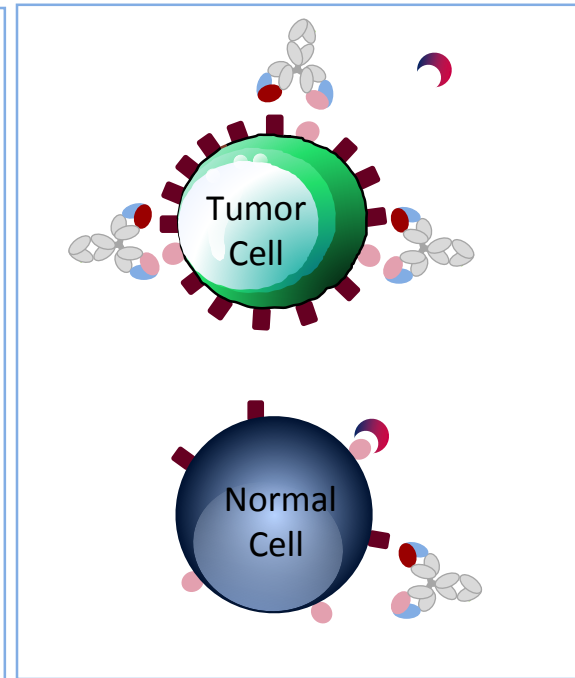
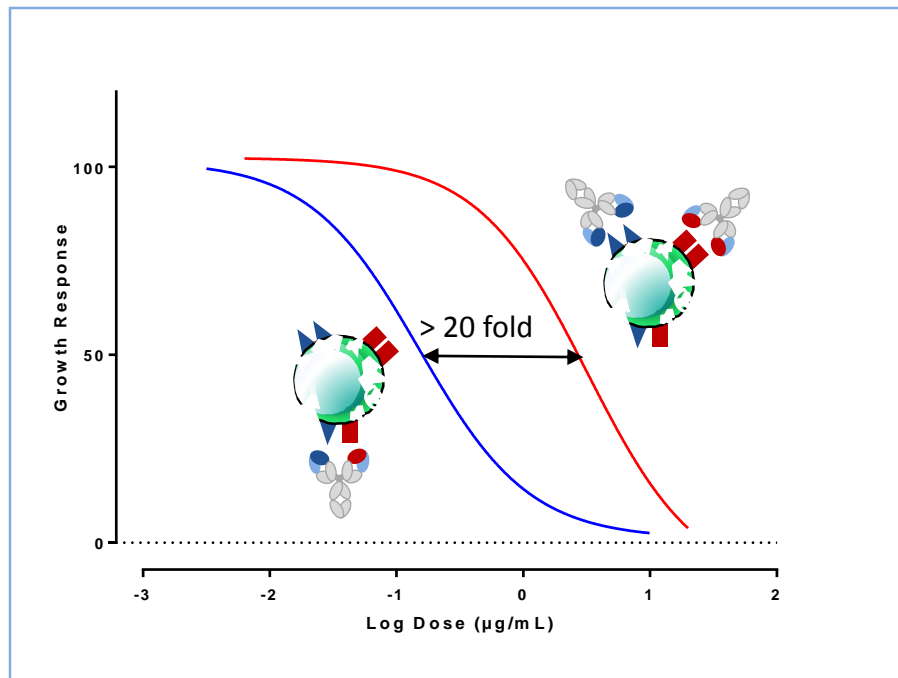
UNIQUE PROPERTIES OF BISPECIFIC ANTIBODIES

- Less toxicity compared to combinations of monoclonal antibodies



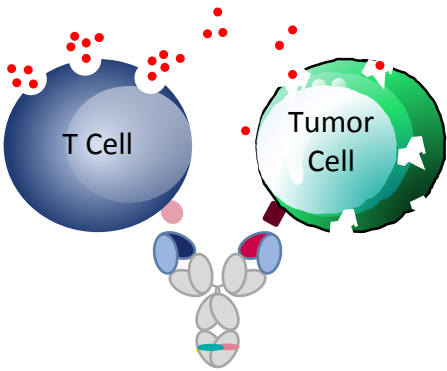
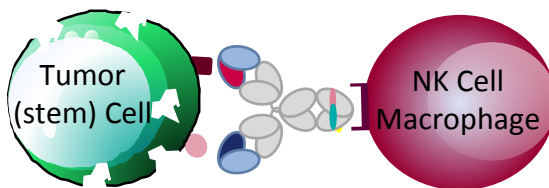
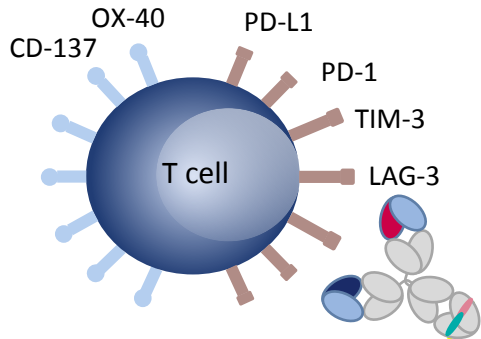
UNIQUE PROPERTIES OF BISPECIFIC ANTIBODIES

- Higher potency compared to combinations of monoclonal antibodies
- Novel mechanisms of action; 'dock and block'









MISSION AND STRATEGY

Develop differentiated cancer therapeutics
based on bispecific antibodies that activate the
immune system to kill tumor cells

Engage T lymphocytes to kill tumor cells	Unlock differentiated target biology	Activate/Revive Tumor Killer Cells
 <p>MCLA-117</p>	 <p>MCLA-128 and MCLA-158</p>	 <p>Preclinical</p>









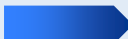

BATTLING CANCER WITH BISPECIFIC ANTIBODIES

Focus	<ul style="list-style-type: none"> Bispecific antibodies for unmet medical needs in various cancers Recruit the immune system to eliminate cancer cells
Technology	<ul style="list-style-type: none"> Biclonics® Platform – full length IgG human bispecifics In format functional screening – differentiated products
Lead Product Candidates	<ul style="list-style-type: none"> MCLA-128 for solid tumors in Phase I/2 clinical development MCLA-117 for AML first in human Phase 1/2 clinical development
Balance Sheet	<ul style="list-style-type: none"> €66.3mn cash and equivalents at September 30, 2016 (May '16 IPO) \$200mn in upfront payments upon close of Incyte agreement (1Q17)
Experienced Team with Expertise in Immunology, Oncology and Antibody Discovery	<ul style="list-style-type: none"> 51 employees (Q4 '16) located in Utrecht (NL) and Cambridge (MA) <div>  <p>Ton Logtenberg, PhD - CEO Professor in Immunology Cofounder and CSO Crucell</p> </div> <div>  <p>Hui Liu, PhD - CBO Molecular Biologist Global Head of BD&L Novartis Oncology</p> </div> <div>  <p>Mark Throsby, PhD - CSO Immunologist Director Antibody Discovery Crucell</p> </div> <div>  <p>Shelley Margetson, CGMA - COO Vice-president Finance PanGenetics</p> </div> <div>  <p>John Crowley, CPA - CFO SVP, Corp. Controller and CAO, Charles River Laboratories</p> </div> <div>  <p>L. Andres Sirulnik, MD, PhD - CMO Senior Global Clinical Program Head, Vice-President Novartis Oncology</p> </div>

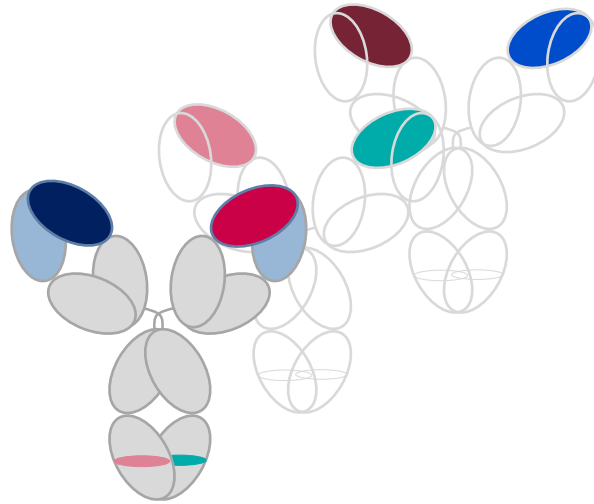
OVERVIEW INCYTE MERUS COLLABORATION

Up-Front Payment	<ul style="list-style-type: none">• Total \$200m in up-front consideration for license and equity<ul style="list-style-type: none">• Platform license: \$120m• Equity investment: \$80m<ul style="list-style-type: none">▪ 3,200,000 shares at \$25/share representing 16.6% ownership
Product Rights	<ul style="list-style-type: none">• <u>One program</u>: Merus retains U.S. development and commercial rights• <u>Two programs</u>: Merus has the option to co-fund 35% global development cost in exchange for 50% of U.S. profits with the right to co-detail a product in one of these 2 programs
Milestones & Royalties	<ul style="list-style-type: none">• <u>Up to 8 programs</u>: Incyte to independently fund all R&D and commercialization activities; Merus to receive:<ul style="list-style-type: none">• Development, regulatory and sales milestones of up to \$2.8 billion (\$350 million/program)• Tiered 6-10% royalties on future sales by Incyte• Upon commercialization of the product that Merus retains U.S. rights to, Merus and Incyte will pay reciprocal tiered 6-10 % royalties on sales in their respective territories

PIPELINE OF BICLONICS® PRODUCT CANDIDATES

Program	Targets	Indication	Pre-Clinical	IND/CTA	Phase 1/2
MCLA-128	HER2, HER3	Breast cancer			
		Gastric cancer			
		Ovarian cancer			
MCLA-117	CD3, CLEC12A	AML			
		MDS			
MCLA-158	Lgr5, EGFR	Colorectal cancer			
MCLA-145	PD-L1, undisclosed	Various solid tumors			
Multiple iMOD Programs ⁽¹⁾	Multiple immunomodulatory targets	Various solid tumors	  		

(1) Includes MCLA-134: PD-1 x TIM-3



BICLONICS® PLATFORM



TECHNOLOGY SUITE FOR DIFFERENTIATING PRODUCTS

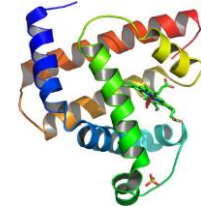
Human antibodies

- MeMo[®] transgenic mouse for large panels of high quality common light chain human mAbs



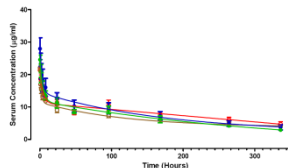
Fc region engineering[®]

- CH3: > 99% pure Biclomics[®]
- CH2: Fc-silencing
- Enhanced ADCC



Predictable in vivo behavior

- normal pK in mice/cyno
- behaviour like IgG in antibody stress tests



Manufacturability

- stability: > 60 passages
- yield: 1 – 2.5 g/L
- scalability: 2000 L
- formulation: standard for IgG



cLC

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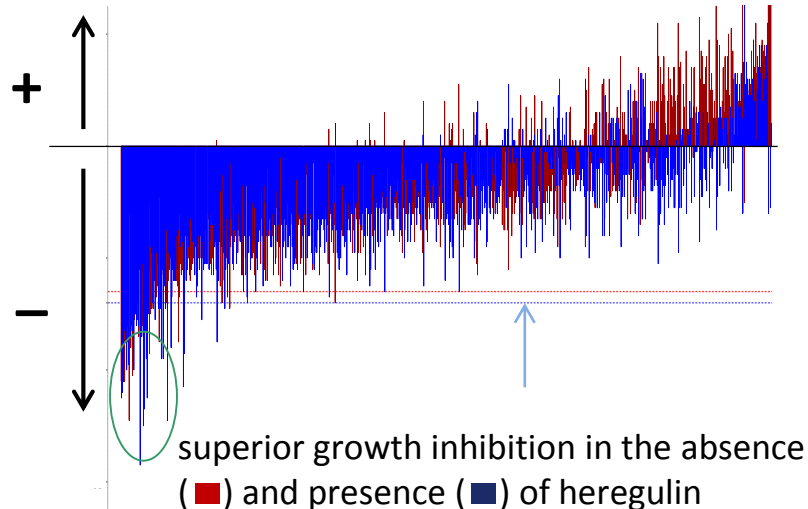
FUNCTIONAL SCREENING UNVEILS DIFFERENTIATED LEADS

- Cell-based screening of large collections of different Biclonics® unveils product leads with differentiated modes of action

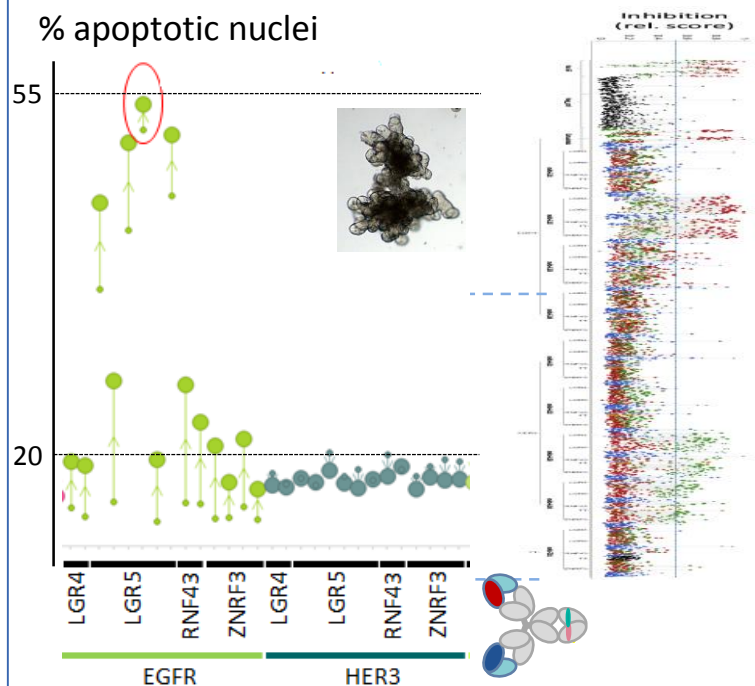


Functional Screening of 750 different EGFRxHER3 Biclonics®

Growth of a tumor cell line



Functional screening of WNT x HER Biclonics®



MCLA-128: HER2 X HER3 BICLONICS®

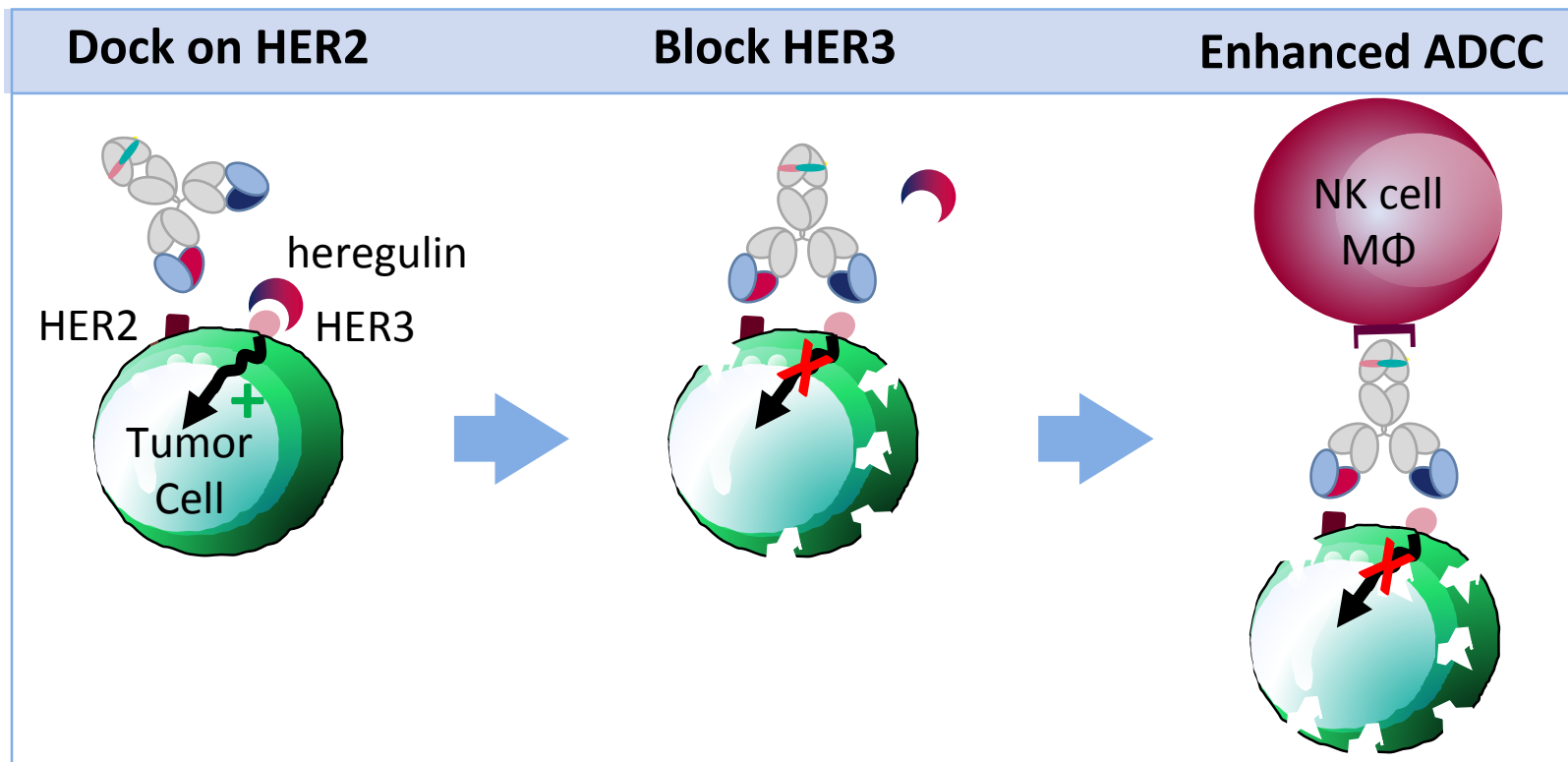


MCLA-128: HER2xHER3 BICLONICS®

Medical need/ positioning	<ul style="list-style-type: none"> Tumor cells become resistant to HER2-targeted therapies by HER3 activation A HER3-targeting bispecific antibody that can be used as single agent or in combinations with HER-targeting biologics (e.g. Herceptin, Kadcyla) or small molecule drugs, or chemotherapy
Mode of action	<ul style="list-style-type: none"> HER3 is difficult to target by conventional mAbs 'Dock and Block' mode of action efficiently inhibits signaling via the HER2:HER3 heterodimer Enhanced ADCC for immune effector cell recruitment
Indications	<ul style="list-style-type: none"> Metastatic cancers of breast, ovary/endometrium and stomach Other solid tumors including non small cell lung cancer and metastatic colon cancer
Target Population	<ul style="list-style-type: none"> HER2+: breast, gastric, and lung cancer Unselected: ovarian and endometrial cancer <ul style="list-style-type: none"> (Un)published, data suggests that the presence of HER2:HER3 heterodimers confers resistance to chemotherapy, independent of HER2 overexpression

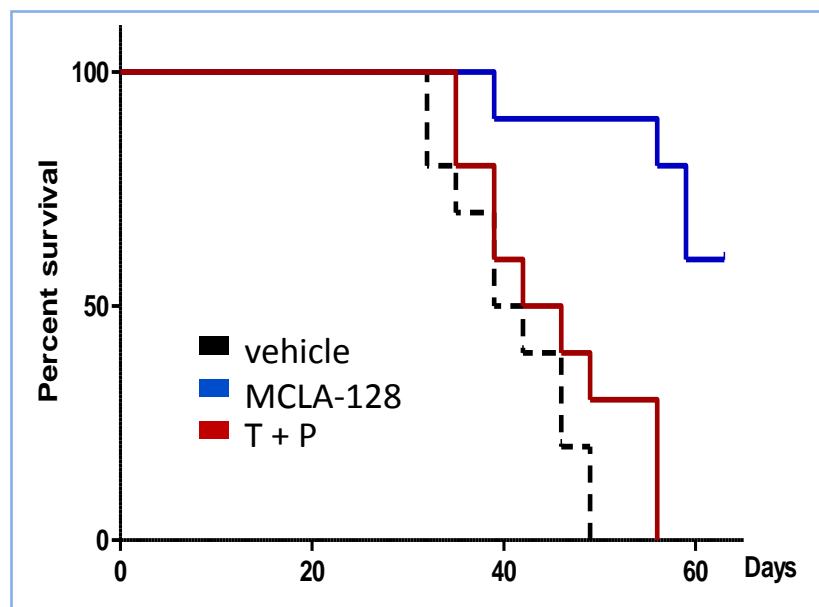
MCLA-128: 'DOCK AND BLOCK' MODE OF ACTION

- Docking of the HER2 arm on HER2 expressed by tumor cells optimally positions the HER3 arm to block heregulin-driven tumor cell growth
- Low fucosylation of the Fc region for enhanced ADCC



MCLA-128 INHIBITS HER3-DRIVEN GROWTH

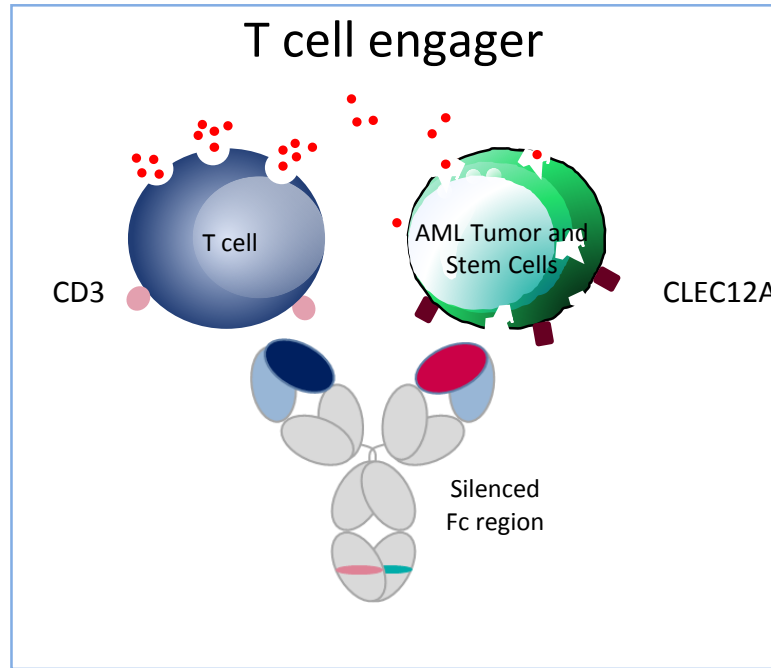
Key preclinical findings <i>(in vitro)</i>	<ul style="list-style-type: none">• More effectively inhibits heregulin-driven cancer cell growth than:<ul style="list-style-type: none">• HER3 mAbs, trastuzumab and trastuzumab + pertuzumab• Combinations of Herceptin and HER3 mAbs
<i>(in vivo)</i>	<ul style="list-style-type: none">• Compared to trastuzumab (T) + pertuzumab (P), MCLA-128 is more effective at inhibiting the growth of cell lines resistant to HER2-targeted therapies



Mice xenografted with cell line JIMT-1(resistant to T + P) show prolonged survival upon treatment with MCLA-128

SINGLE AGENT MCLA-128 PHASE I/II STUDY

<p>Part 1</p> <p>Dose Escalation</p>	<ul style="list-style-type: none"> • 28 patients with solid tumors; all comers • Very good safety profile <ul style="list-style-type: none"> • No dose-limiting toxicities • Most drug-related AEs were mild to moderate (G1/G2) • Recommended dose: 750 mg flat, IV infusion in 2h, q3ws • Evidence of activity in heavily pre-treated patients including progressors to chemotherapy/HER2-directed therapies
<p>Part 2</p> <p>Expansion Cohorts</p>	<ul style="list-style-type: none"> • Actively enrolling in indications of interest: <ul style="list-style-type: none"> • Metastatic breast cancer (20 patients) <ul style="list-style-type: none"> ▪ Progressed on two HER2-directed therapies and chemotherapy • Ovarian cancer (20 patients) and endometrial (20 patients) <ul style="list-style-type: none"> ▪ Progressed to platinum-based therapies • Metastatic gastric cancer (20 patients) <ul style="list-style-type: none"> ▪ Progressed to trastuzumab/chemotherapy



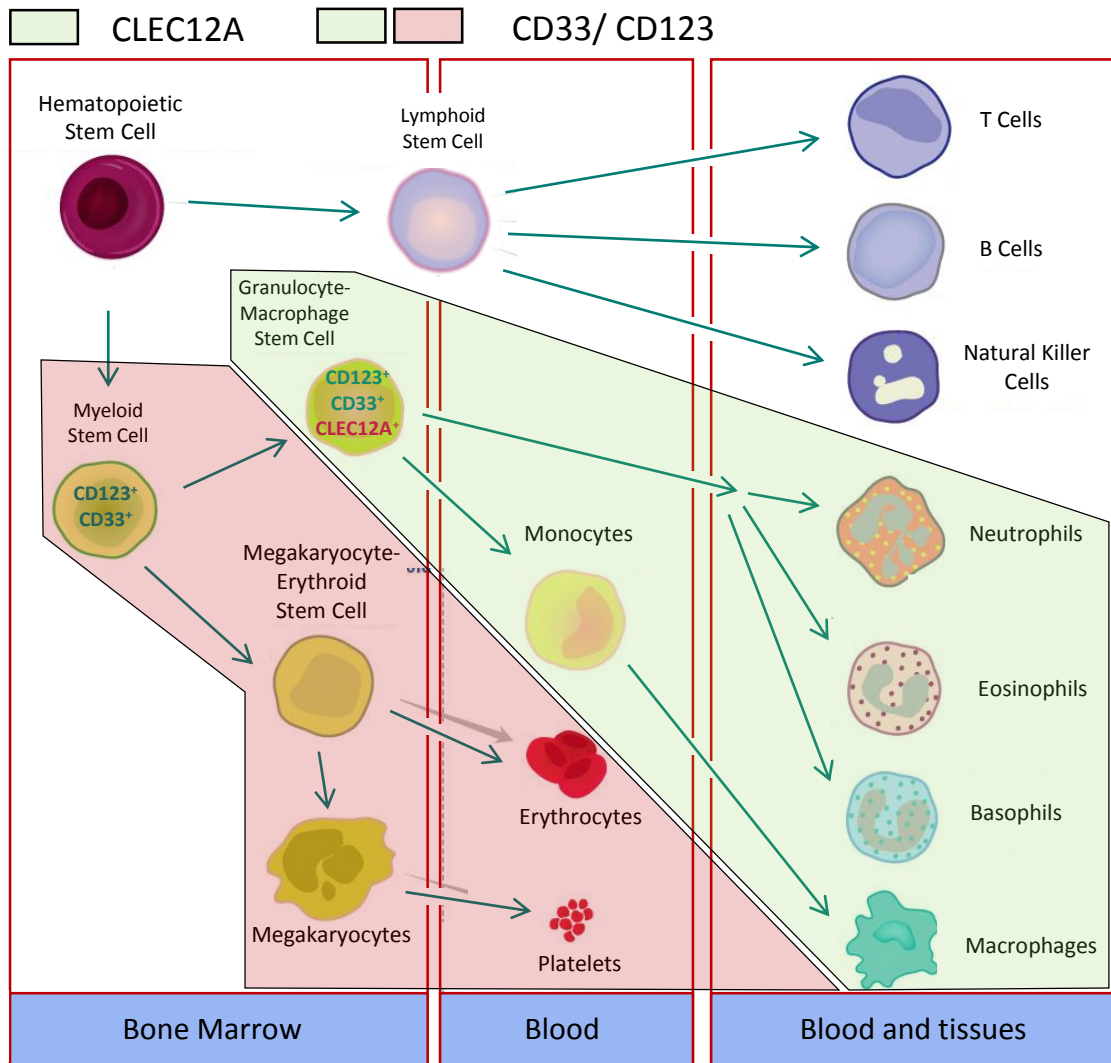
MCLA-117



MCLA-117: CD3xCLEC12A T CELL ENGAGER FOR AML

Medical Need and Positioning	<ul style="list-style-type: none">Increasing patient population with little progress in disease outcomes for last 4 decades; most patients succumb to AMLInduction or maintenance therapyMinimal residual diseaseRescue therapy for Refractory/Relapsed patients
Mode of Action	<ul style="list-style-type: none">Retargeting T cells via a first-in-class AML target with restricted expression in normal hematopoietic cellsDesigned to selectively kill tumor cells/tumor stem cells
Indications	<ul style="list-style-type: none">AML patients with relapse or refractory diseaseNewly diagnosed, untreated AML patients > 65 years who are not candidates for the standard intensive AML therapy
Status	<ul style="list-style-type: none">A first-in-human clinical trial was initiated in May 2016

CLEC12A: RESTRICTED TISSUE EXPRESSION



CLEC12A – normal tissues

- Not expressed on normal tissues outside of the hematopoietic system
- Only on certain myeloid cells of the hematopoietic system
- More restricted expression than CD33 and CD123

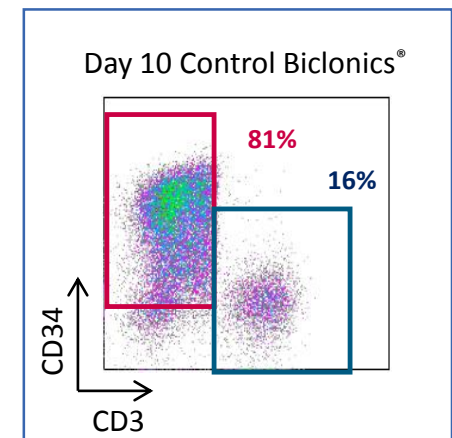
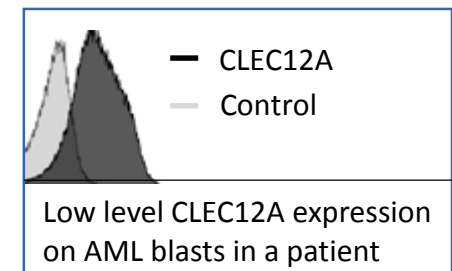
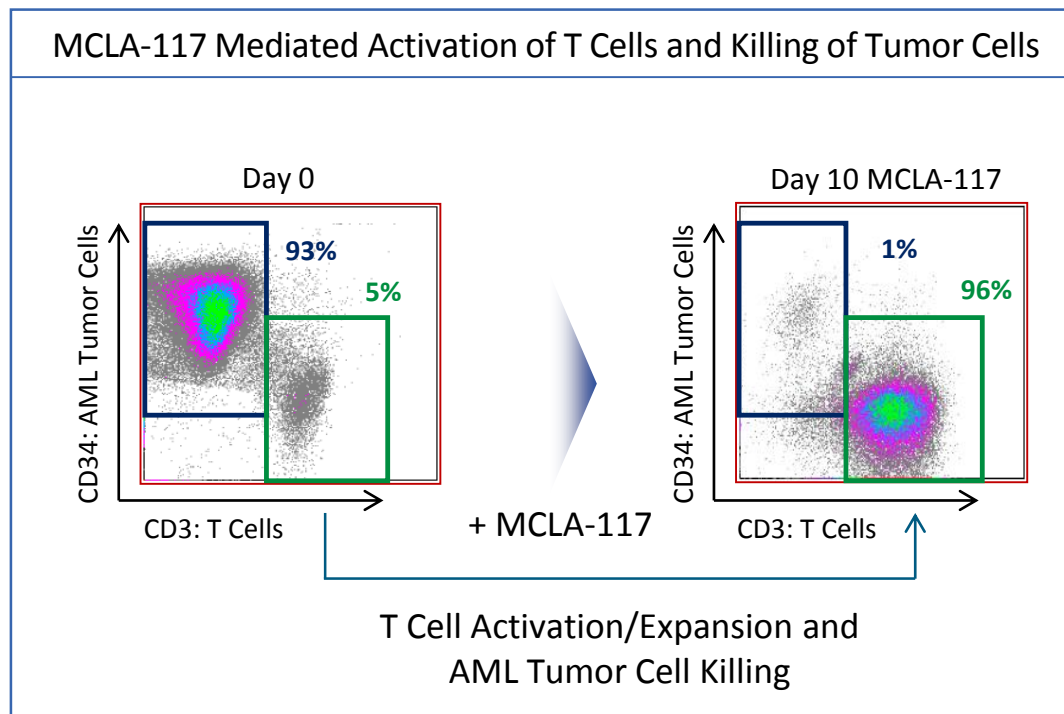
CLEC12A - tumor tissues

- Expressed by tumor cells of ~90-95% of patients with AML (> 85% of patients with MDS)
- Expressed by AML tumor stem cells

MCLA-117: *EX VIVO* EFFICACY IN AML SAMPLES


MCLA-117 causes:

- Specific and efficient lysis of large numbers of tumor cells by low numbers of T cells present in blood samples from AML patients
- T cell expansion




MCLA-117: PHASE I/2 TRIAL BUILDUP

Part 1: Dose escalation

	Cohort (# pts)	Dose (mg) flat	Date
<u>AML all subtypes</u> Treatment naïve >65 & Rel/Ref >18	1 (2)	 Intra- patient	Q2 '16
	2 (2)		
	3 (3)*		
	4 (3)	Dose escalation	Q1 '17
	5 (3)		
	6 (3)		
	7 (3,6)		
	8 (3,6)	Inter- cohort	
	9 (3,6)		Q4 '17
Safety, recommended dose			

* Cohort #4 initiated Jan 2017

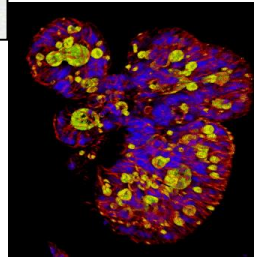
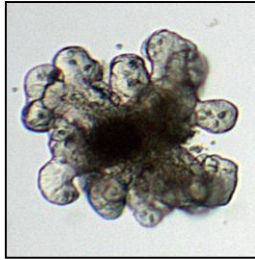
Part 2: Expansion

#Pts	Cycles	Date
5	2	
10	2	
15	2	
Q2 '18		

- PK
- T cell activation
- Immunophenotype
- PD-L1/TIM3 expression
- Cytogenetics

**Safety, preliminary efficacy
at recommended dose**

RP2D



MCLA-158



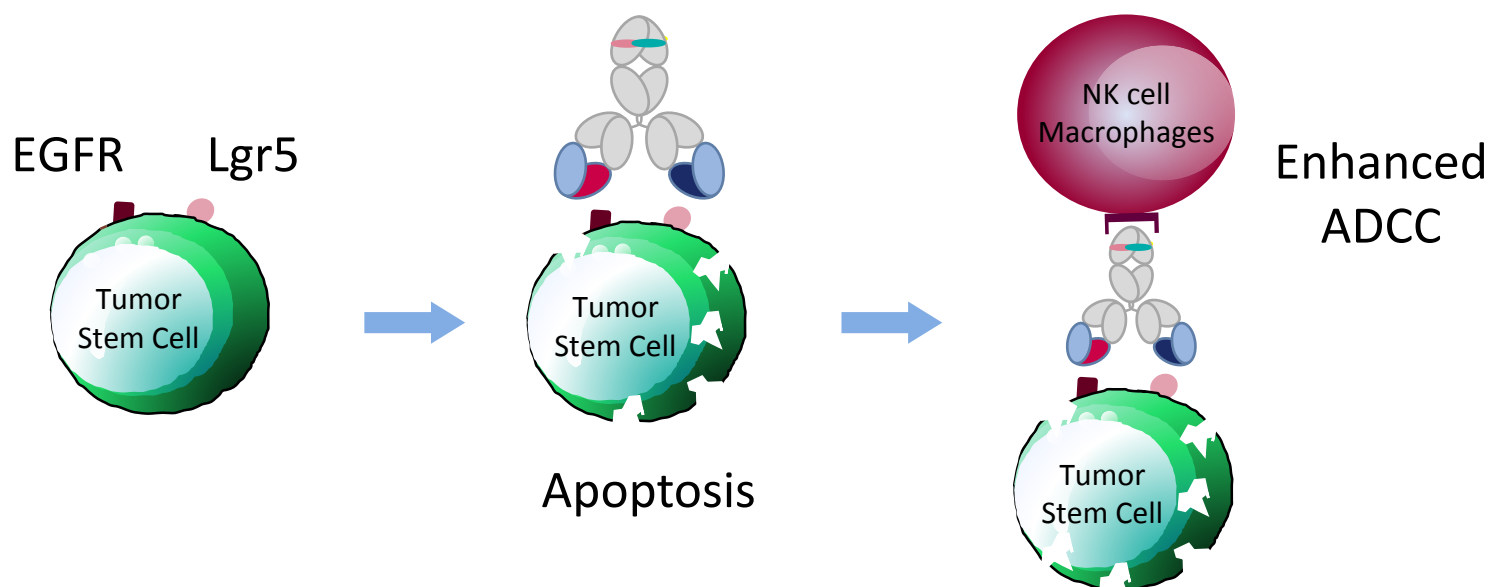
MCLA-158: EGFR X Lgr5 BICLONICS®

Unmet Medical Need

- Designed to eliminate cancer stem cells that persist in various solid tumors and cause relapse and metastasis

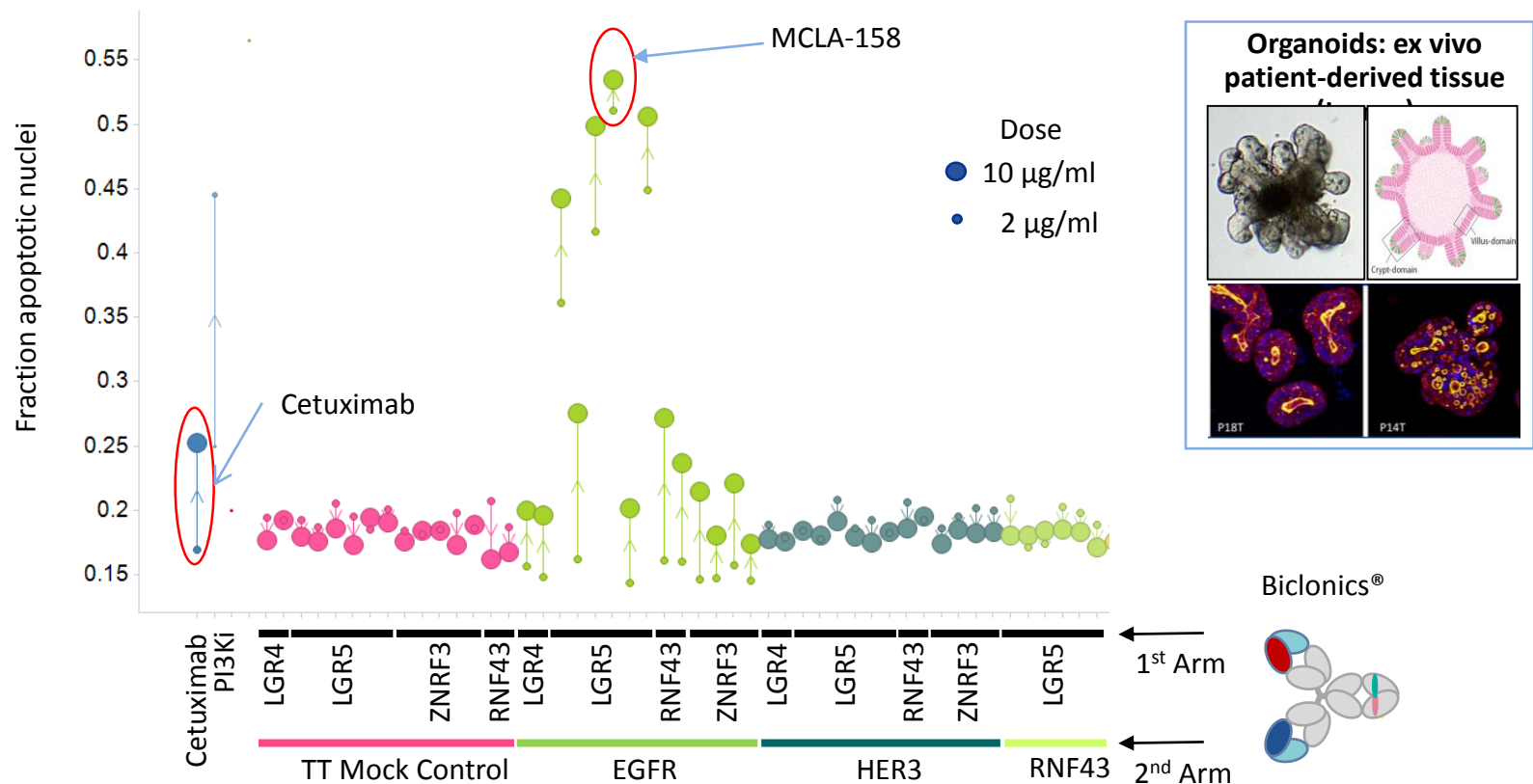
Differentiated Mode of Action

- Targets the Wnt pathway receptor Lgr5 and EGFR
- Induces apoptosis in cancer stem cells
- Enhanced ADCC for immune effector cell recruitment



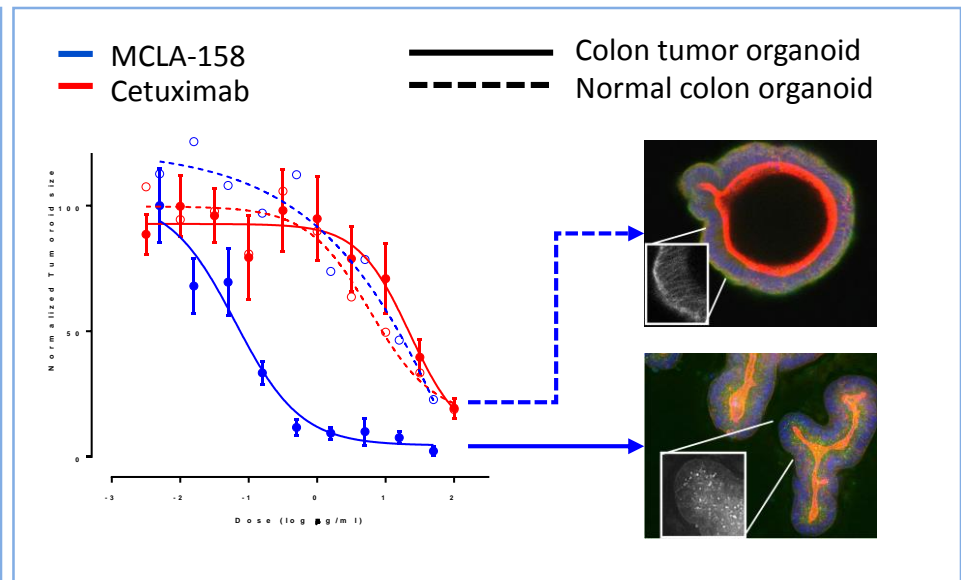
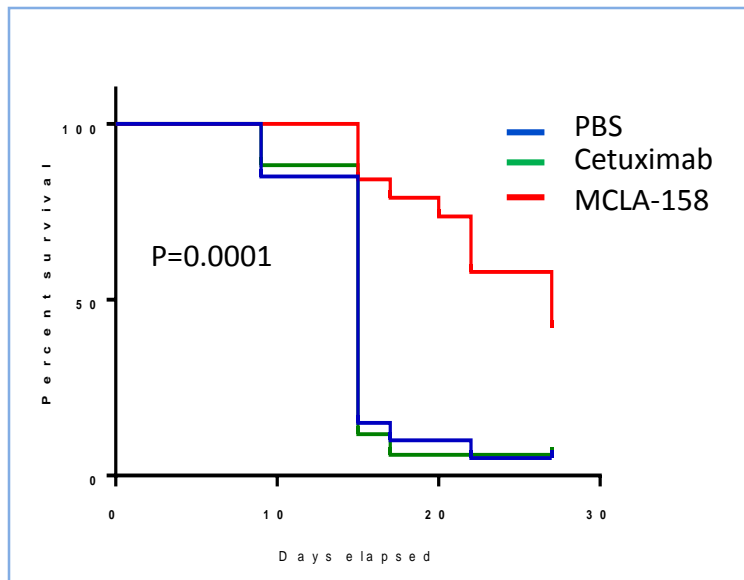
MCLA-158 INDUCES APOPTOSIS IN CRC ORGANOID

- In preclinical studies MCLA-158 has been shown to
 - be a potent inducer of apoptosis in organoids derived from patients with colorectal cancer
 - effectively target and kills cancer stem cells

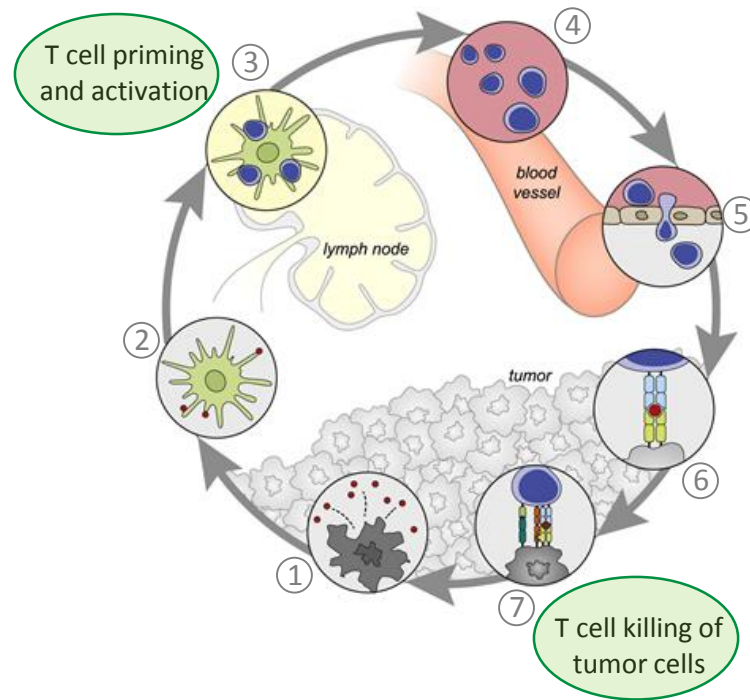


MCLA-158 INHIBITS ORGANOID GROWTH *IN VIVO*

- MCLA-158 is a novel stem cell targeting bispecific antibody.
 - More potent than EGFR targeting mAbs (e.g. Cetuximab)
 - Effectively eliminates tumor stem cells *in vitro* and *in vivo* (KRAS^{WT} and KRAS^{mut})

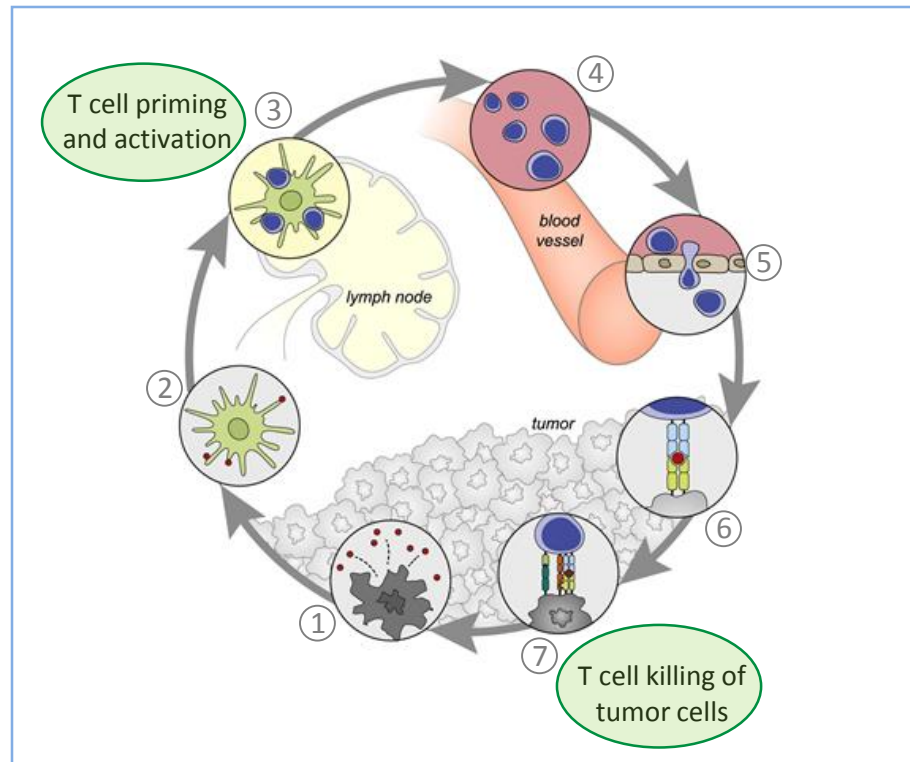


IMMUNO-ONCOLOGY



BICLONICS® FOR IMMUNO-MODULATION - iMODS

- Merus develops Biclomics® that bind to combinations of:
 - Co-inhibitory targets
 - Costimulatory and co-inhibitory targets
 - Tumor-associated antigens and co-stimulatory/co-inhibitory targets



- Potential advantages
 - More potent revival/activation of tumor-specific T cells
 - Improved targeting to the tumor micro-environment
 - Lower risk of toxicity (autoimmune disease)
 - Attractive for combination therapies with additional compounds/vaccines

EMPIRICAL iMOD TARGET COMBINATION DISCOVERY

- Combine target panels with high diversity (affinity, epitope, sequence)
- Screen for functional activity *in vitro* using reporter assays, primary T cell and PBMC based assays

Coinhibitory combinations

PD-1	CTLA-4
PD-L1	VISTA
TIM-3	B7-H3
LAG-3	B7-H4

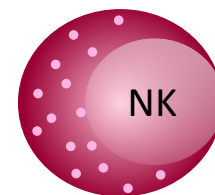
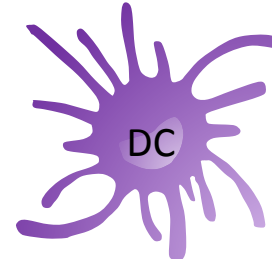
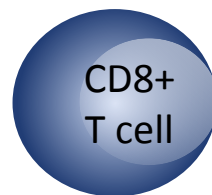
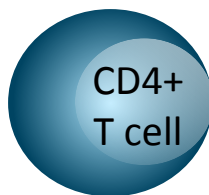
Coinhibitory x costimulatory combinations

OX40	PD-1
CD137	PD-L1
CD40	TIM-3
GITR	LAG-3

Costimulatory/coinhibitory x TAA combinations

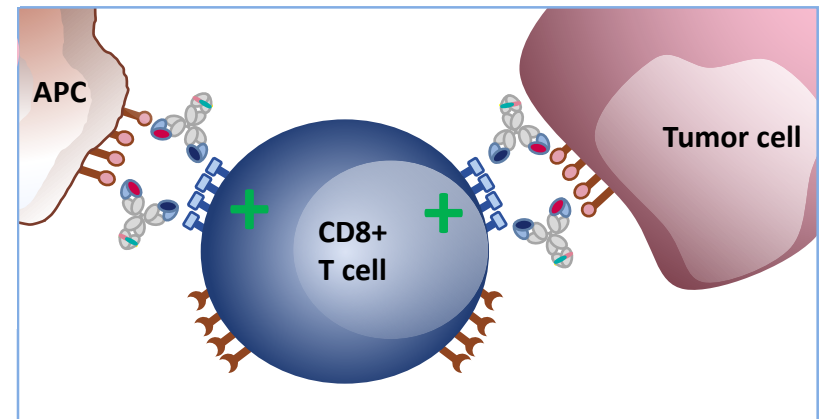
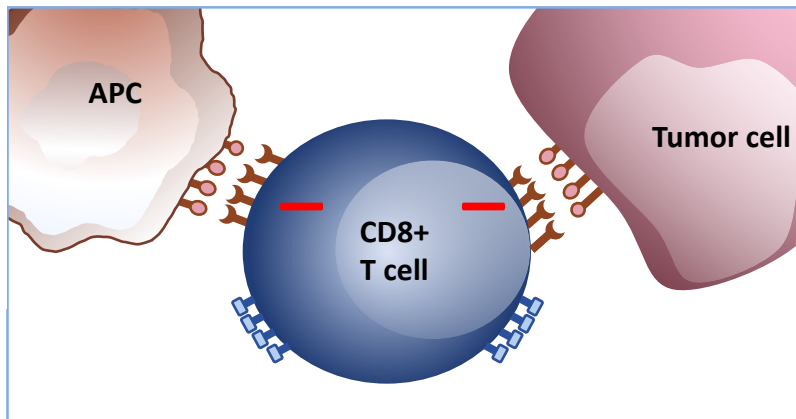
OX40	PD-1	EGFR
CD137	PD-L1	HER2
CD40	TIM-3	
GITR	LAG-3	

Many cell types express various combinations of immunomodulatory targets



FUNCTIONAL CHARACTERISTICS OF LEAD BICLONICS®

- Functional characteristics of Lead Biclonics addressing coinhibitory x costimulatory Combinations
 - Costimulation of CTLs
 - Blockade of CTL suppression
 - Recruitment and activation of NK cells
 - Suppression of Treg cell generation
- Potential outcomes *in vivo*
 - Enhanced tumor immunity with memory response
 - Reduction in irAE's





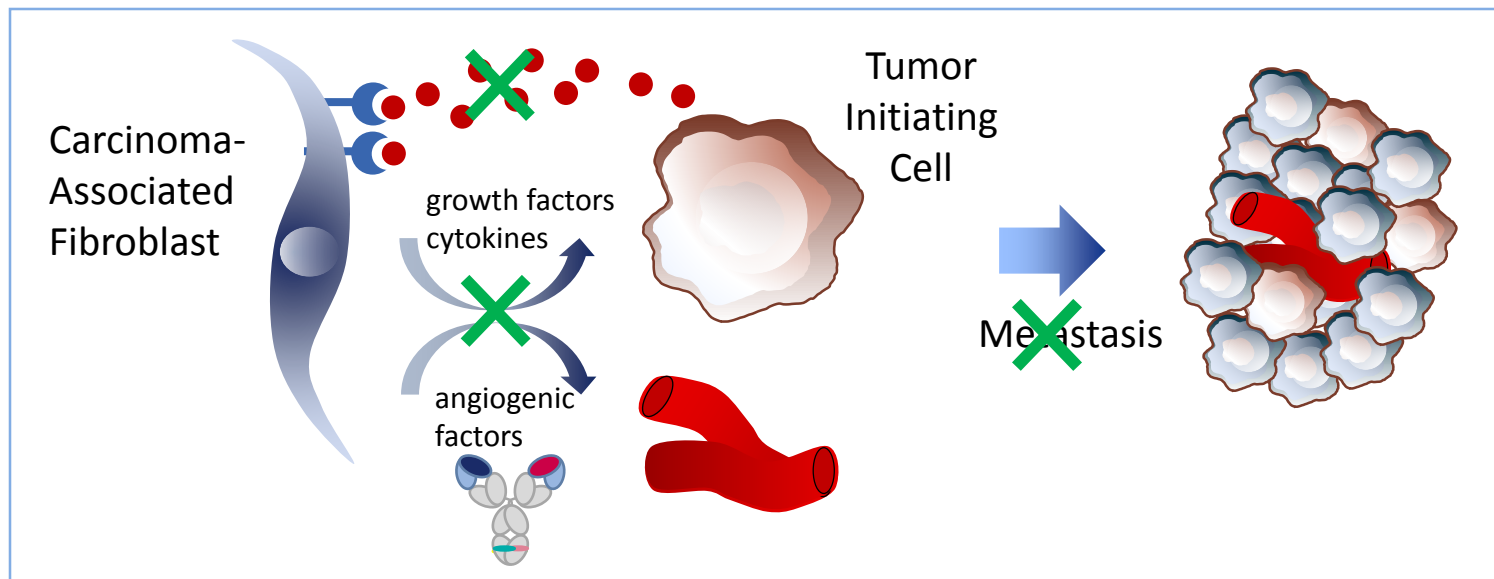
Merus

TUMOR MICROENVIRONMENT











TUMOR-STROMAL SIGNALLING CREATES METASTATIC NICHE

- The tumor stroma is an important modulator and driver of tumorigenicity (“architects of cancer pathogenesis”).
- The stromal and epithelial components of a tissue act in an integrated, reciprocal fashion.
- Develop Biclomics that disrupt tumor-stromal signalling loops => block formation of metastatic lesions



NEAR-TERM MILESTONES

2017	 <u>Interim results</u> from Part 2 of Phase 1/2 trial of MCLA-128 in mBC	1Q
	 <u>Lead identification</u> of the first Biclonics® for immuno-modulation	1Q
	 <u>IND filing</u> planned for Phase 1/2 clinical trial of MCLA-117	2Q
	 <u>Interim results</u> expected from Part 1 of Phase 1 clinical trial of MCLA-117 in AML	2H
	 <u>Topline results</u> expected from Part 2 of Phase 1/2 trial of MCLA-128 in multiple indications	2H
	 <u>IND filing</u> planned for Phase first-in-human clinical trial of MCLA-158	4Q
2018	 <u>Topline results</u> expected from Part 1 of Phase 1 clinical trial of MCLA-117	1Q
	 <u>Topline results</u> from Part 2 of Phase 1 clinical trial of MCLA-117 in AML expected	1H



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