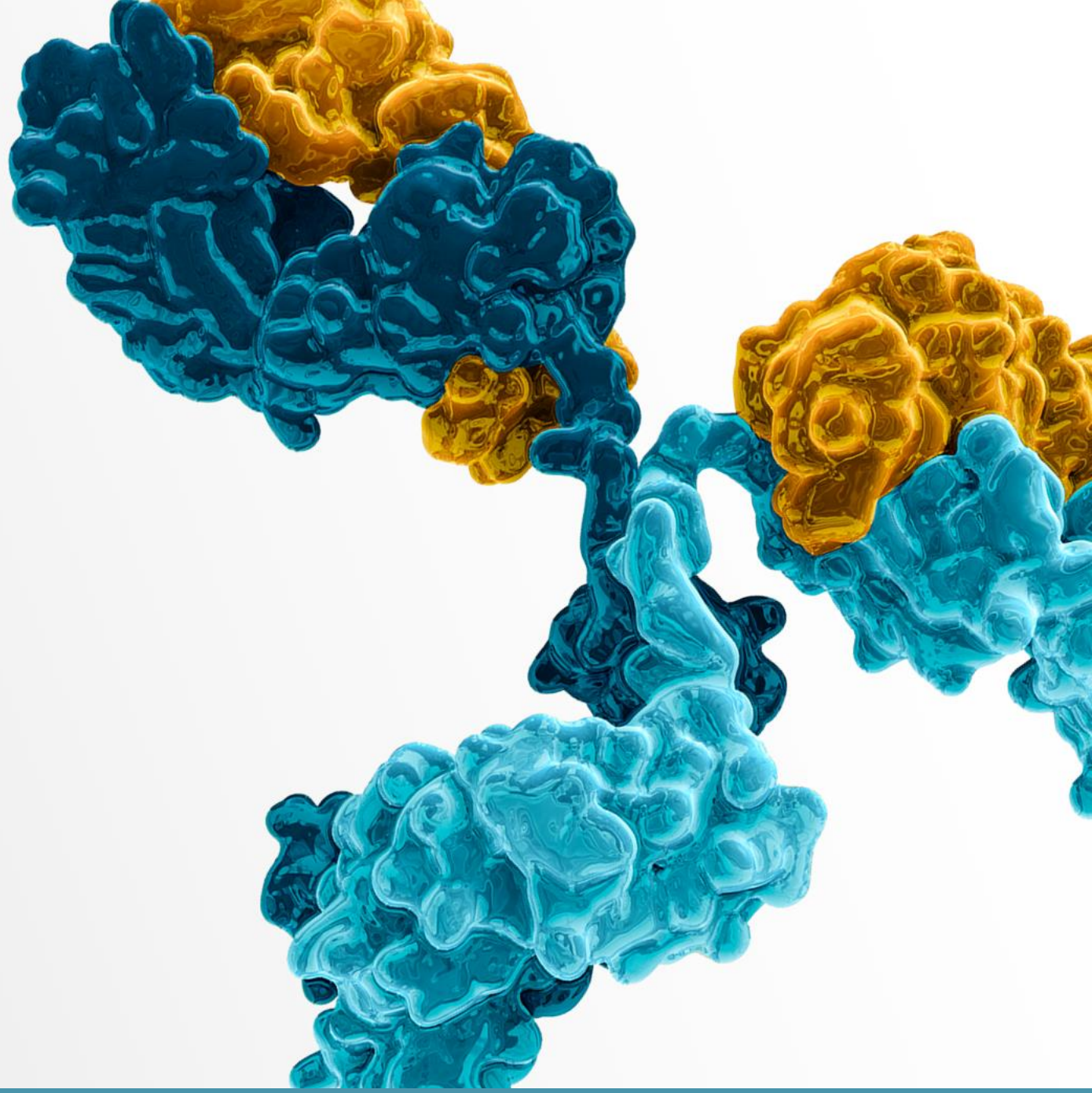
Merus

Closing In On Cancer

September 2020



Disclaimer

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 Biclonics® 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 data read outs or results from our clinical trials and our collaborations. 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 out operations or require us to relinquish rights to our technologies or bispecific antibody candidates; potential delays in regulatory approval and impacts of the COVID-19 pandemic, 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 Biclonics®, and Triclonics™ 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 in our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2020 filed with the Securities and Exchange Commission, or SEC, on August 6, 2020, 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.

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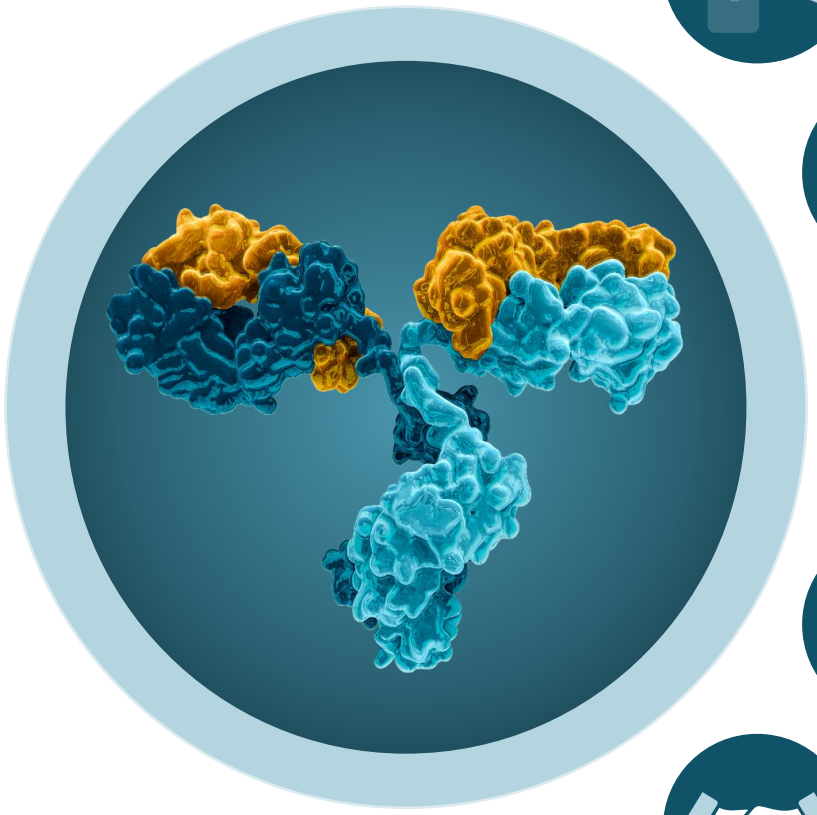
Merus Overview



Oncology-focused Company Developing Multispecific Antibody Therapies

Bispecific and trispecific cancer therapeutic candidates based on the human IgG format

Established Clinical Pipeline

Clinical proof-of-concept with zenocutuzumab (“Zeno”) in patients with neuregulin 1 (NRG1) gene fusion (NRG1+) cancers

Near Term Data Readouts and Strong Cash Position into 2H 2022

Zeno NRG-1 phase 1/2 clinical data 2Q 2021

Leading Multispecific Antibody (Multiclonics®) Platforms

Common light chain format permits broad high throughput Biclonics® and Triclonics™ discovery

Strategic Collaborations to Unlock Platform Value

Multiple strategic collaborations and license agreements

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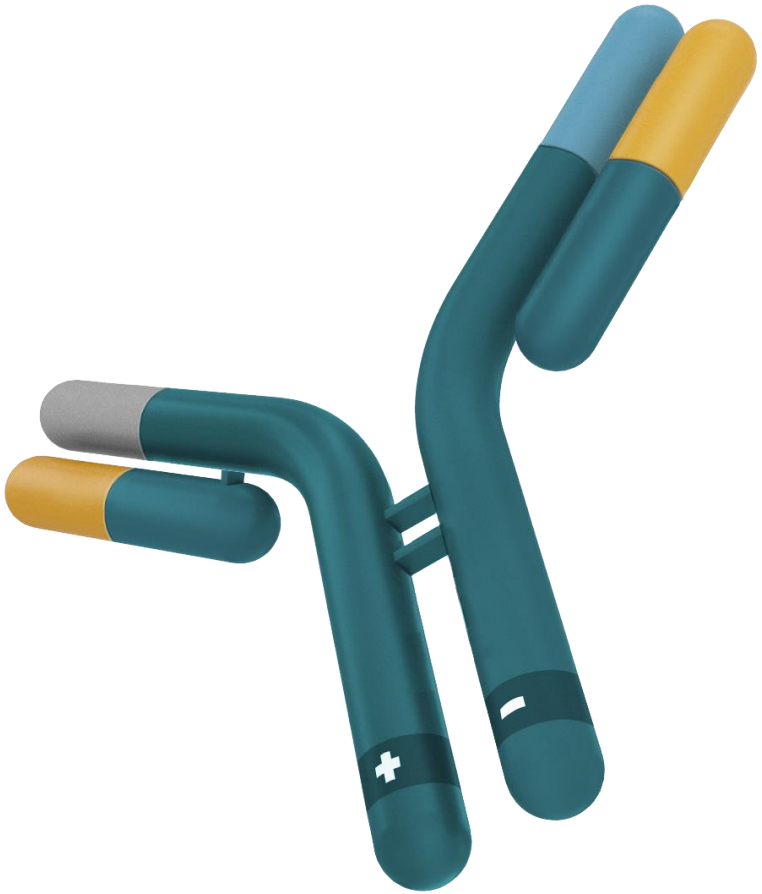
Merus Multiclonics®

Bispecific and Trispecific Cancer Therapeutic Candidates in Human Monoclonal Antibody Formats



- Large-scale screening to select from up to 1,000s of candidates
  - Potential to identify best and new biological combinations
- Fully human IgG format allows for:
  - Ease of manufacturing
  - Low immunogenicity risk
  - Predictable *in vivo* behavior
  - Durable, consistent half life
  - Potential for ADCC enhancement and Fc silencing
- Robust IP portfolio: patents covering Multiclonics® technology, including common light chain antibody generation and dimerization by charge engineering

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Merus Clinical Pipeline

PROGRAM	BISPECIFIC TARGETS	INDICATION(S)	PRECLINICAL	PHASE 1	PHASE 1/2	STATUS
Zenocutuzumab (Zeno) (MCLA-128)	HER3 x HER2	NRG1+ Pancreatic NRG1+ Lung NRG1+ Other solid tumors				Phase 1/2 trial ongoing Clinical data and program update planned 2Q 2021
MCLA-158	Lgr5 x EGFR	Solid tumors				Phase 1 Trial Ongoing Update planned YE 2020
MCLA-145	CD137 x PD-L1	Solid tumors	Incyte (ex- U.S.)			Phase 1 Trial Ongoing
MCLA-129	EGFR x c-MET	Solid tumors	BETTA PHARMACEUTICALS (China)			IND Enabling Studies Ongoing
ONO-4685*	PD-1 x CD3	Autoimmune disease	ONO			Phase 1 Trial Ongoing
….*	Undisclosed	Autoimmune disease	ONO			

* If commercialized, Merus to receive royalties

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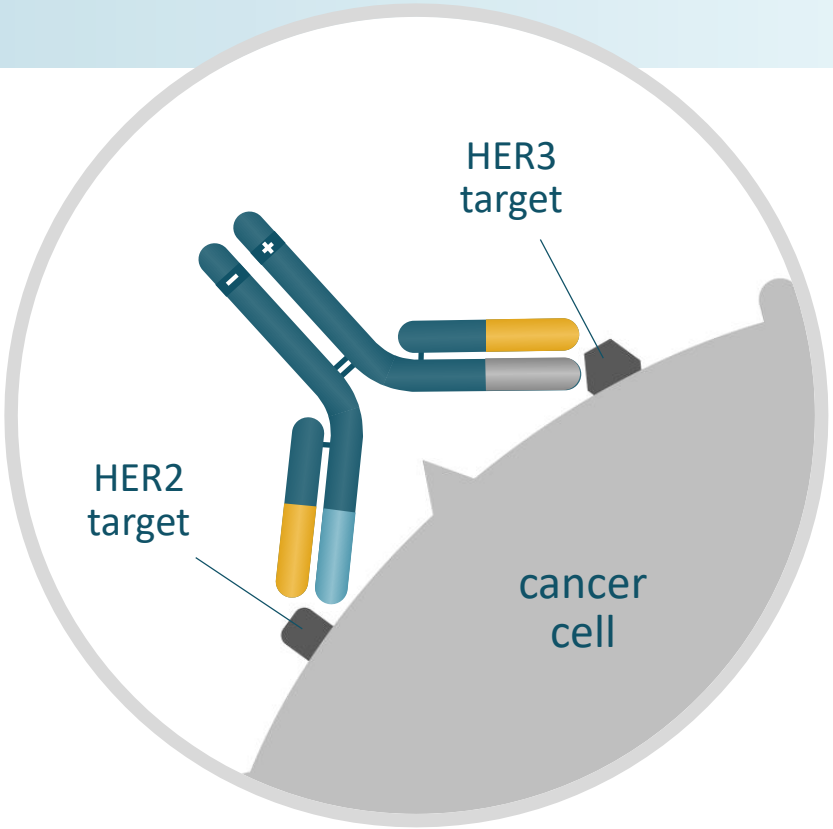
Promising early clinical activity in patients with NRG1+ cancers

Zenocutuzumab

MCLA-128 or “Zeno”
HER2 x HER3 bispecific

- NRG-1 gene fusions (NRG1+) are rare genetic events occurring in lung, pancreatic and other solid tumors
- Unique DOCK & BLOCK® mechanism of Zeno potently inhibits NRG1+-driven tumor growth
- Enhanced ADCC mediates tumor elimination by immune effector cells
- eNRGy Trial enrolling and Early Access Program ongoing
- Clinical data and program update expected 2Q 2021



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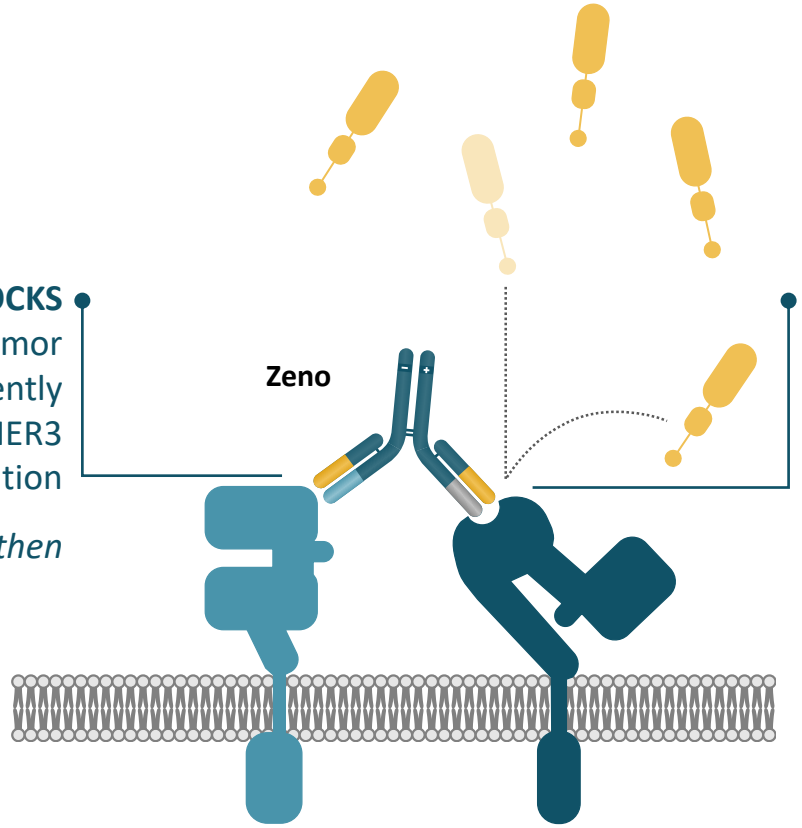
Zeno DOCK & BLOCK® Mechanism of Action

Uniquely Suited to Target NRG1+ Cancers

DOCKS
to HER2 on tumor cells to efficiently block HER2:HER3 dimer formation

then



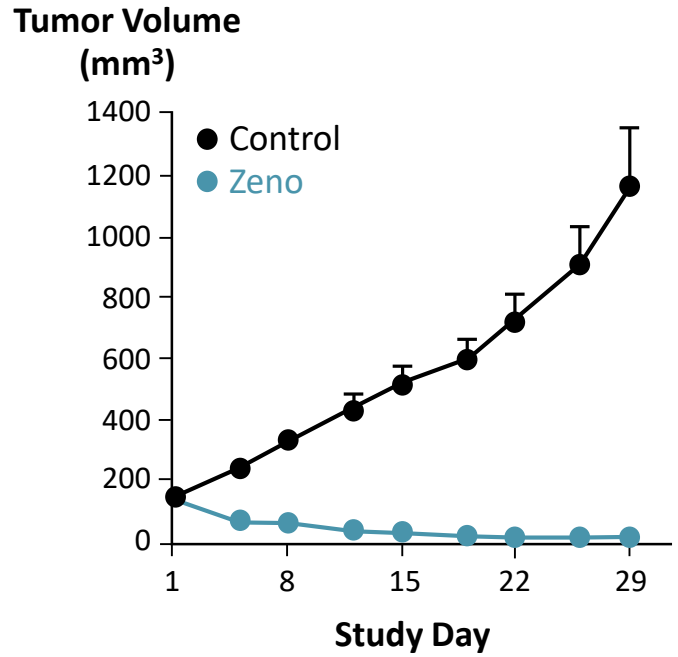
BLOCKS
HER3 signaling even in high NRG1+ tumor environments

+

Enhanced ADCC mediates tumor elimination by immune killer cells

Zeno blocks tumor cell growth and survival driven by HER3 ligands, including neuregulin (NRG-1) or NRG-1 gene fusions (NRG1+)

Zeno Blocks Tumor Growth in NRG1+ PDX Model



Source: Geuijen C et al. Cancer Cell (2018) https://www.cell.com/cancer-cell/fulltext/S1535-6108(18)30174-0#%20

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Zeno Safety Profile for Single Agent Use

Safety Data in Over 100 Patients in Phase 1/2 Trials

Safety and Tolerability in Phase 1/2 Trial

OVER 100 PATIENTS EVALUATED*
Zeno Dosing: 750 mg ranging from q1w-q3w

- Single agent well tolerated
- Low risk for immunogenicity
- Most AEs were grade 1-2

Data cut off: Jan-2019. Refer to https://merus.nl/publications/ for full data presented. Refer to ASCO poster 2018 and AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics 2019 https://merus.nl/app/uploads/2019/10/AACR-NCI-EORTC_Poster-LB-B12_NRG1-MCLA-128_10252019_FINAL.pdf

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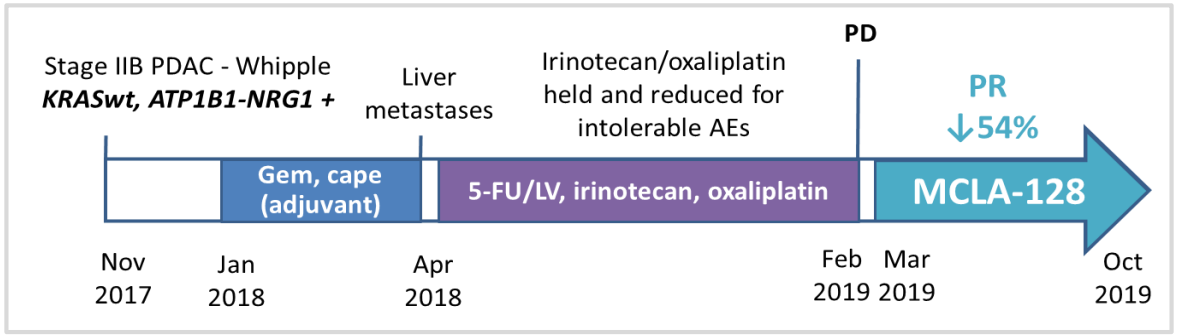
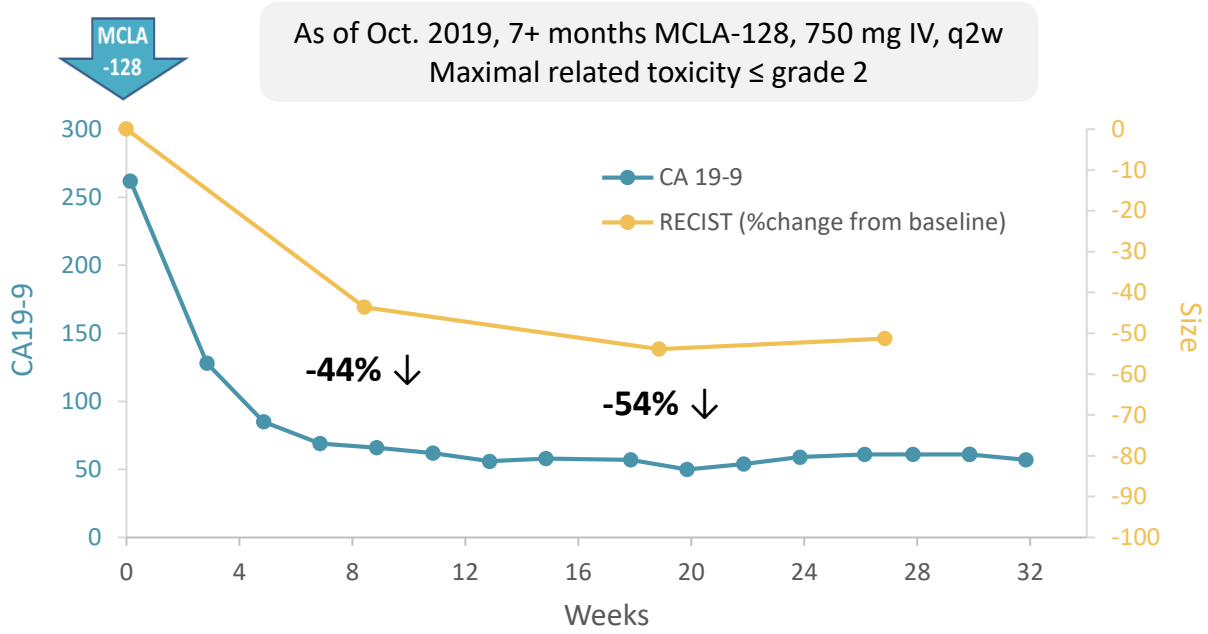
Zeno Clinical Response in NRG1+ Cancers

Patient Data Presented at 2019 AACR-NCI-EORTC International Conference

Example pancreatic cancer patient:





Source: AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics 2019
https://merus.nl/app/uploads/2019/10/AACR-NCI-EORTC_Poster-LB-B12_NRG1-MCLA-128_10252019_FINAL.pdf/

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Zeno Activity and Promising Durability Observed in Patients

Zeno NRG1+ Clinical Activity Reported by MSKCC at 2019 AACR-NCI-EORTC International Conference

	PANCREATIC CANCER		LUNG CANCER
Tumor size reduction	54% (PR)	25% (SD)	41% (PR)
PET scan	Neg	Neg	nd
Decline in tumor marker	~75%	~90%	N/A
Duration of treatment (mo)	>7*	>7*	~ 5*

Source: AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics 2019
https://merus.nl/app/uploads/2019/10/AACR-NCI-EORTC_Poster-LB-B12_NRG1-MCLA-128_10252019_FINAL.pdf

Overall Experience with Zeno in NRG1+ Tumors as of October 2019

	N	PANCREATIC CANCER	LUNG CANCER
Evaluable	6	PR 7 mo*; SD 7 mo	PR 5 mo*; SD 7 mo; PD; PD
Non-evaluable	3	Died of progressive disease prior to first evaluation	2 Pts not yet at first evaluation

5 patients enrolled on the eNRGy trial; 4 patients treated under Early Access Program

Source: Merus Press Release Oct 27, 2019 https://ir.merus.nl/news-releases/news-release-details/merus-bispecific-antibody-mcla-128-shows-encouraging-early
*Indicates treatment was ongoing at the time of the conference; nd, no data; N/A, not applicable

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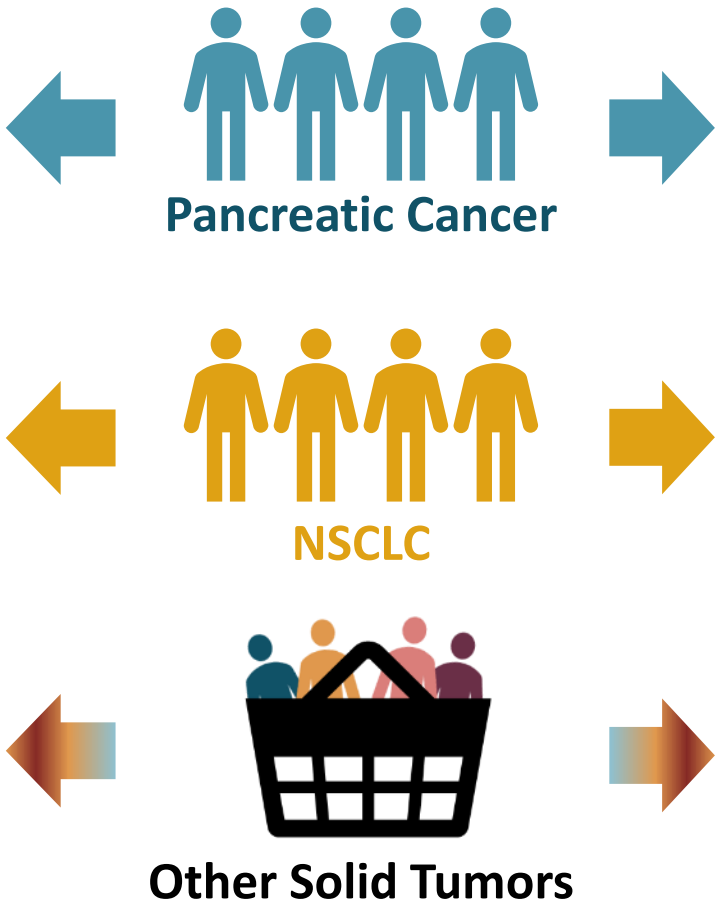
Zeno Clinical Programs in NRG1+ Cancers

eNRGy Clinical Trial and Early Access Program Ongoing

eNRGy Clinical Trial

- Phase 1/2 global single arm trial of Zeno in NRG1+ cancers
- Cohorts include Pancreatic, NSCLC, and other solid tumors
- Majority of clinical trial sites open and enrolling
- Ongoing Phase 1/2 trial update expected 2Q 2021



Early Access Program

- For eligible patients who do not enroll on the eNRGy trial
- Allows patients with NRG1+ cancers to receive treatment with Zeno
- Evaluations and patient follow up may be similar to eNRGy protocol
- May provide additional clinical data in support of Zeno NRG1+ program

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Identifying and Recruiting NRG1+ Patients

NRG1+ Cancers are Found Across Multiple Solid Tumor Types

TUMOR TYPE	ESTIMATED INCIDENCE (%)
LUNG	0.3 – 3.0
PANCREAS	0.5 – 1.5
OTHER	< 1.0

Comprehensive Effort to Identify and Recruit NRG1+ Patients

IDENTIFICATION
Patient testing and physician engagement campaigns

COLLABORATION
Physician, trial site engagement & support
1-833-NRG-1234
www.nrg1.com

PLACEMENT
Patient logistics / support for eNRGy trial or EAP

eNRGy Clinical Trial

Early Access Program

Note: Projections of NRG1+ estimated incidence based on limited published information, including Jonna S et al. Clinical Cancer Research (2019); independent epidemiology review https://ir.merus.nl/news-releases/news-release-details/merus-announces-acceptance-six-abstracts-upcoming-medical; and Wang (2015); Duruisseaux (2017); Trombetta (2018); McCoach (2018); Karlsson (2019); Drilon (2018); Fernandez-Cuesta (2014); Seto (2018); and Scheel (2015)

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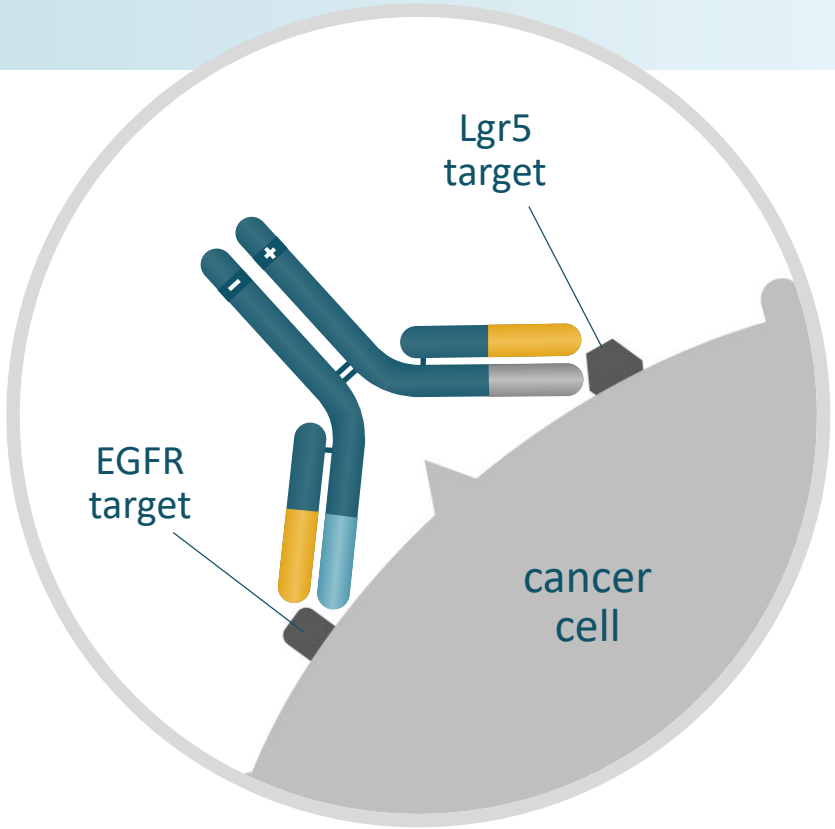
Designed to potently block signaling and growth in Wnt-dysregulated solid tumors

MCLA-158

Lgr5 x EGFR bispecific

- Binds to EGFR and Lgr5, an intestinal cancer-initiating cell antigen
- Potential to address significant unmet need in colorectal cancers and a variety of other solid tumors
- Blocks growth in Wnt-dysregulated tumor models including Ras^{mut}
- Modifications to enhance ADCC
- Phase 1 trial update planned for year end 2020



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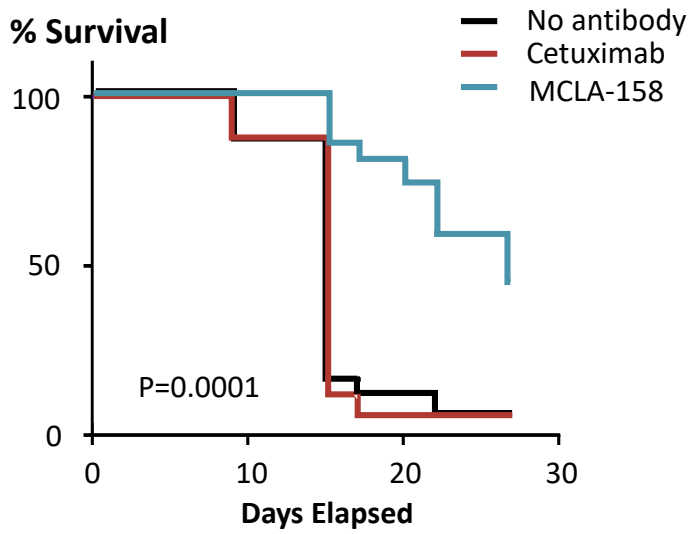
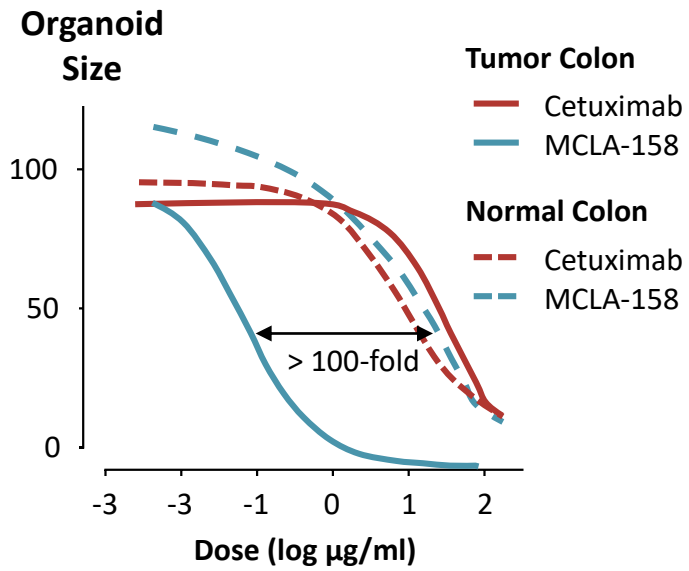
MCLA-158 — Novel Target and Innovative MoA

Superior Growth Inhibition and Selectivity of Tumor Versus Healthy Tissue

Superior **ACTIVITY** compared to Cetuximab



Superior **SELECTIVITY** for tumor-derived organoids



ONGOING PHASE 1 TRIAL

- Global Phase 1 dose escalation and cohort expansion trial
- Protocol includes dose expansion phase at RP2D
- Update planned year end 2020

- *Activity observed in xenograft models resistant to treatment with Cetuximab*
- *MCLA-158 discriminated between organoids derived from tumor and healthy tissue*

Source: Rob C. Roovers (ASCO 2017 Poster Presentation))https://merus.nl/app/uploads/2019/02/MCLA-158-poster-AACR2017.pdf

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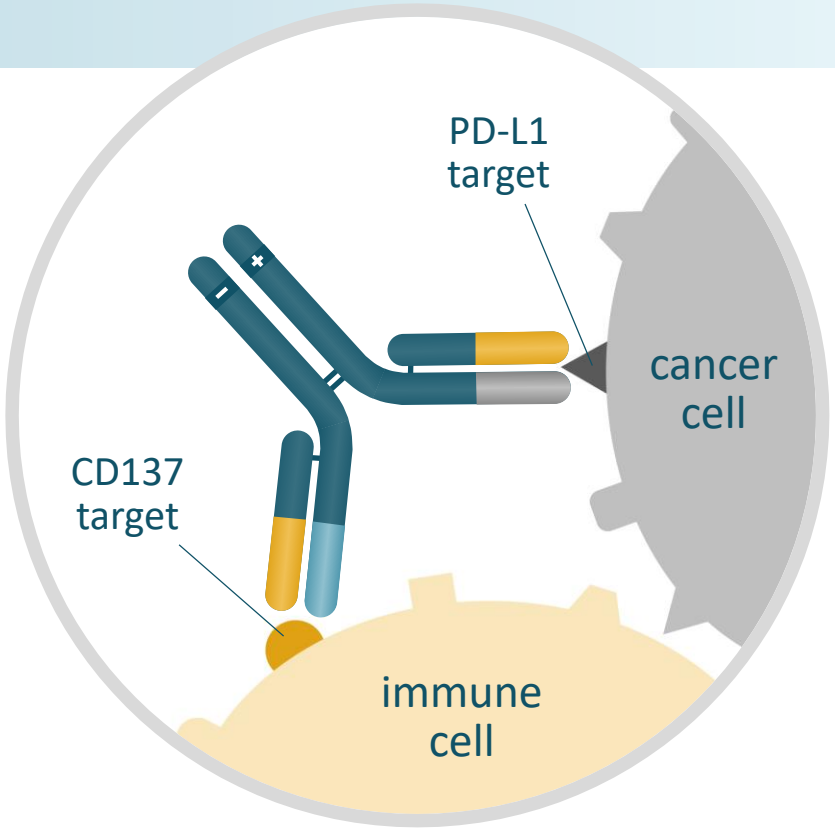
Designed to recruit and activate tumor infiltrating T-cells

MCLA-145

PD-L1 x CD137 bispecific

- Binds to PD-L1 on tumor cells and CD137 (4-1BB), a potent activator of tumor infiltrating T-cells, on activated T-cells
- Targeting to PD-L1 positive cells in the tumor and blocking the PD-1/PD-L1 inhibitory signal
- Potential in a variety of solid tumors and hematological malignancies
- Global phase 1 trial ongoing in collaboration with Incyte



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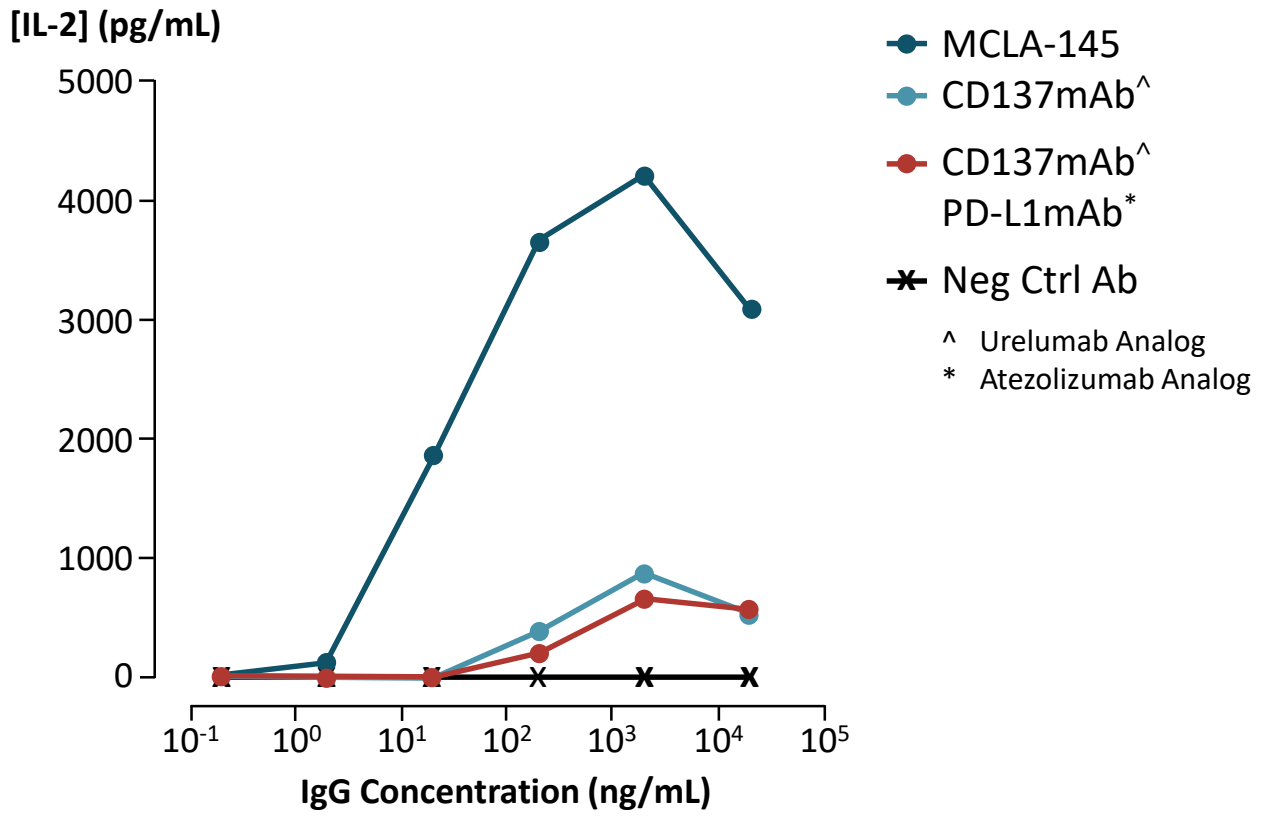
MCLA-145 — Targets PD-L1 Positive Tumor Cells

Demonstrated Potent T Cell Activation in Preclinical Studies

Primary T Cell Transactivation Assay



Ongoing Phase 1 Trial

- Global open-label Phase 1 dose escalation trial ongoing
- Clinical trial co-developed in collaboration with Incyte Corporation

Source: 2019 AACR Presentation A bispecific Fc-silenced IgG1 antibody (MCLA-145) requires PD-L1 binding to activate CD137
https://merus.nl/app/uploads/2019/04/IC171-19E-AACR19-Mayes-MCLA-145-MoA-Poster_MT06_for-approval-032019.pdf

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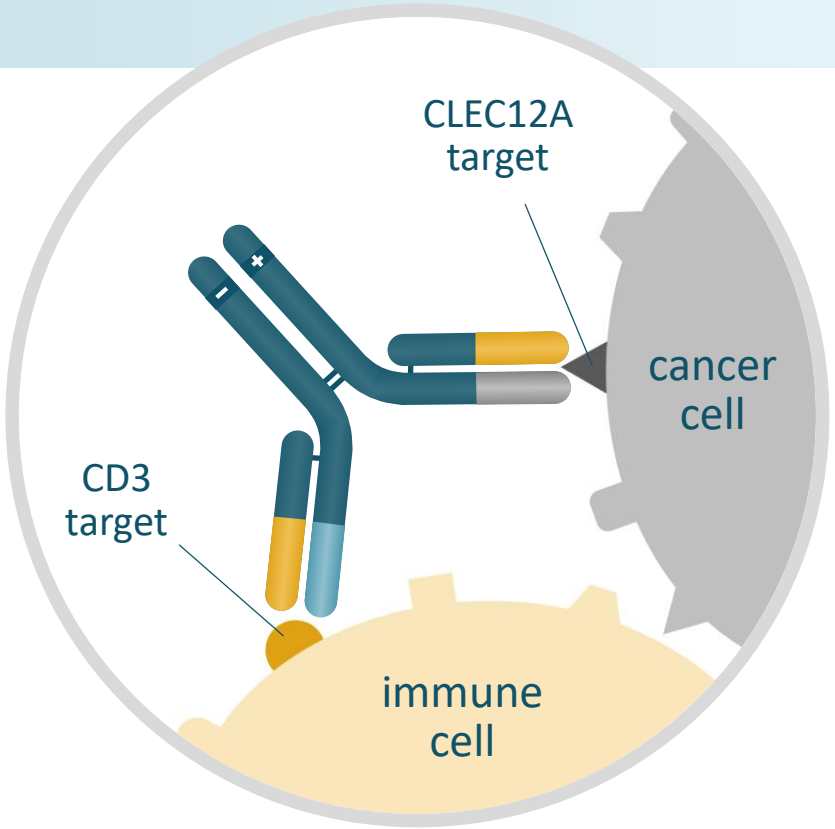
Interim phase 1 trial results of novel T-cell engager at EHA 2020

MCLA-117

CLEC12A x CD3 bispecific

- Designed with lower CD3 affinity binding to potentially reduce the risk of cytokine release syndrome
- Acceptable safety profile in clinical trial
- Active in acute myeloid leukemia (AML) with T-cell activation, cytokine elevation and AML blast reductions in some patients
- Insufficient clinical activity in escalation to continue to enroll dose expansion cohorts
- Findings from this trial expected to inform further development of our extensive proprietary T-cell engager platform



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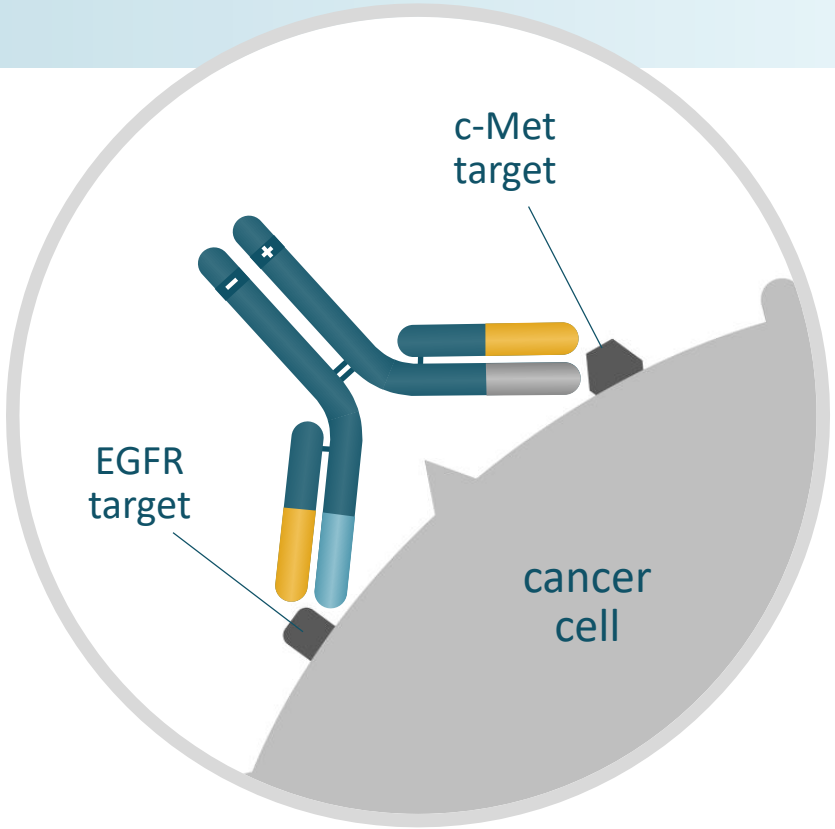
Designed to target lung cancer and other solid tumors

MCLA-129

c-MET x EGFR Bispecific

- Targets both c-Met and EGFR on cancer cells as well as resistance mechanism
- Preclinical program directed at a target-pair combination with clinical validation
- Significant opportunity in lung cancer and other solid tumors



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Merus Collaborations & Licensing Agreements

Expanding Merus pipeline through development of innovative therapeutics

Global collaboration of up to 11 Biclonics® programs

$200mm at signing and research funding, Merus retains full U.S. rights to develop, commercialize MCLA-145

MCLA-129 EGFR x C-MET collaboration

Betta conducting IND-enabling studies; Merus retains global rights ex-China

Collaboration with 3 immuno-oncology Biclonics® programs

Simcere responsible for IND-enabling and China studies; Merus retains global rights ex-China

Biclonics® Licensing Agreement for Auto-immune diseases

Phase 1 trial in Japan for ONO-4685, a PD-1 x CD3 bispecific antibody

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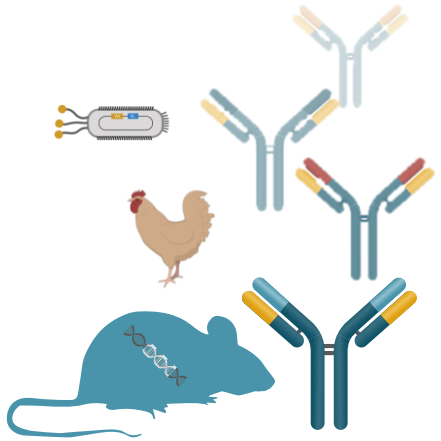
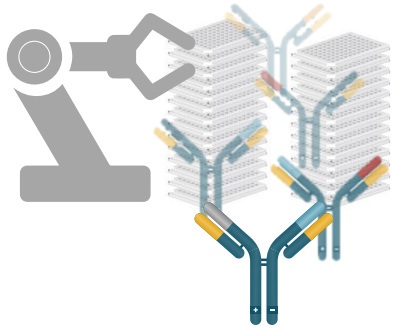
Our Platform – Unparalleled Capabilities in Multispecific Antibodies

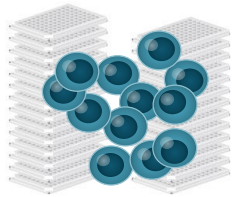


Patented discovery engine including the "Merus Mouse" (MeMo®) generates diverse, high quality common light chain (cLC) antibody panels

Proprietary inventory of thousands of cLC antibodies, each with distinct purposes and unique features

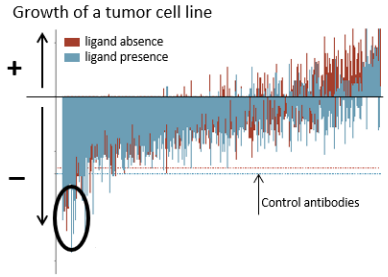


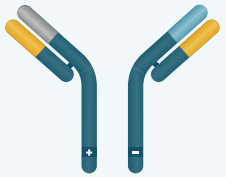
Robotics generate thousands of Multiclonics® for functional screening



In-format, unbiased functional screening with high throughput cellular assays

Empiric selection of best candidates from hundreds of different Biclonics® against two different targets





CH3 domain variations "DEKK" drives preferential, efficient pairing of different antibody chains to create multispecific functionality

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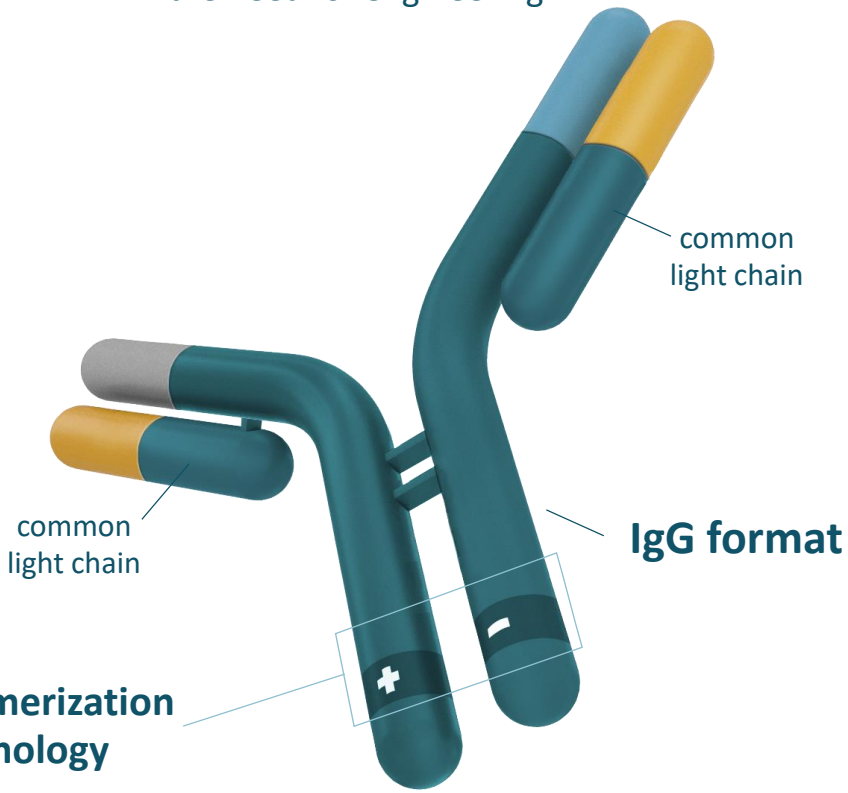
Our Science — Multiclonics® Technology

Leading the Next Generation of Multispecific Antibody Therapies

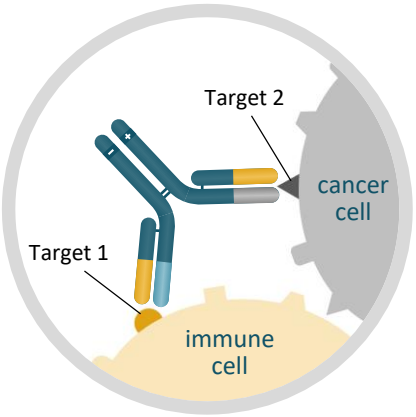
Common Light Chain (cLC) Antibodies

to prevent heavy/light chain mispairing without the need for engineering

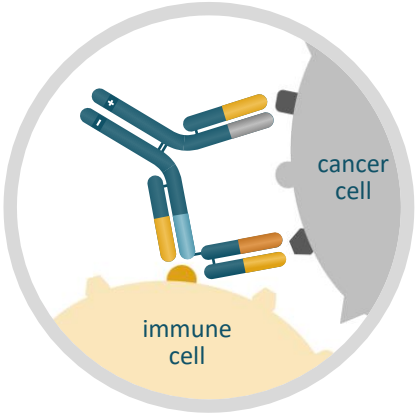


Multiclonics® Format

Biclonics®



Triclonics™



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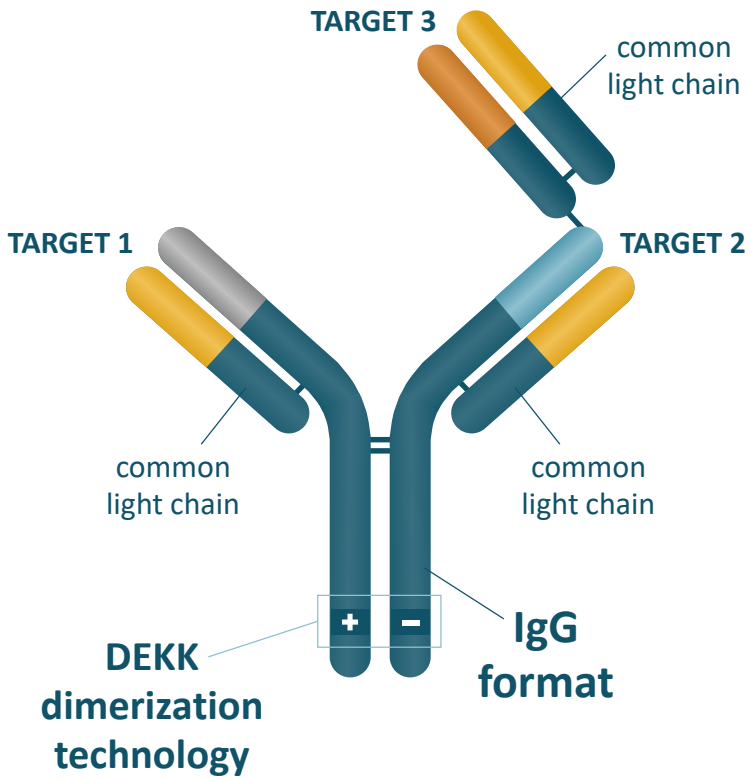
Our Research — Triclonics™ and Beyond



Triclonics™

Triclonics™ Opportunity

- High throughput production, purification and screening in the trispecific format
- Stable format with predictable behavior that can be produced as if it were a normal monoclonal antibody
- Allows for 3 specificities without the need to engineer each individual Fab
- Leverages Merus' extensive library of established antibody panels that bind tumor antigens and engage and modulate the immune system to explore combinations and novel biology

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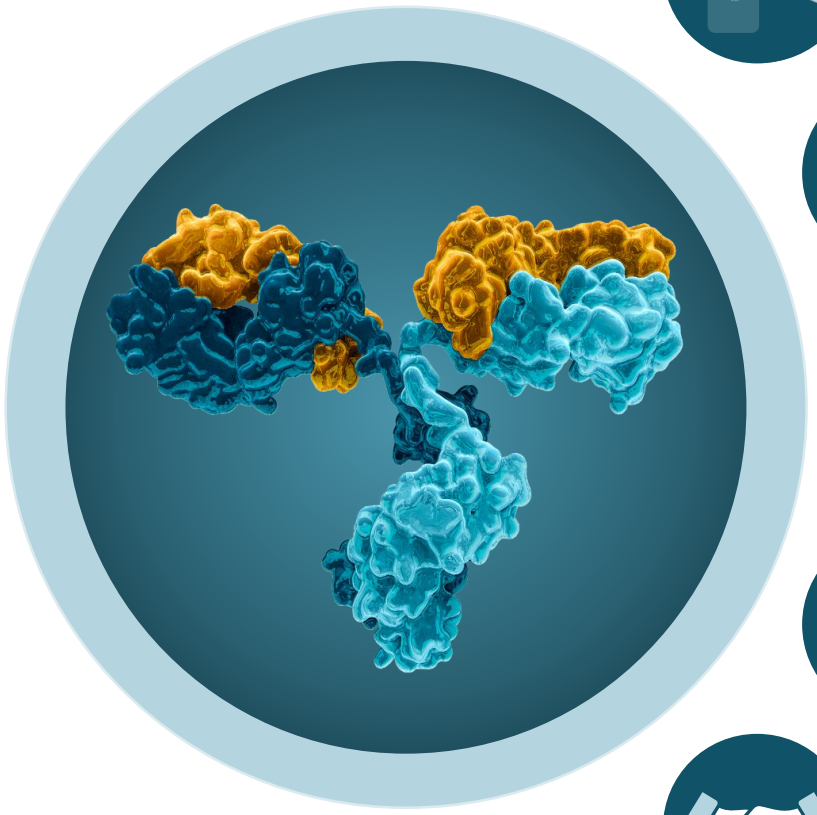
Merus Overview



Oncology-focused Company Developing Multispecific Antibody Therapies

Bispecific and trispecific cancer therapeutic candidates based on the human IgG format

Established Clinical Pipeline

Clinical proof-of-concept with zenocutuzumab (“Zeno”) in patients with neuregulin 1 (NRG1) gene fusion (NRG1+) cancers

Near Term Data Readouts and Strong Cash Position into 2H 2022

Zeno NRG-1 phase 1/2 clinical data 2Q 2021

Leading Multispecific Antibody (Multiclonics®) Platforms

Common light chain format permits broad high throughput Biclonics® and Triclonics™ discovery

Strategic Collaborations to Unlock Platform Value

Multiple strategic collaborations and license agreements

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