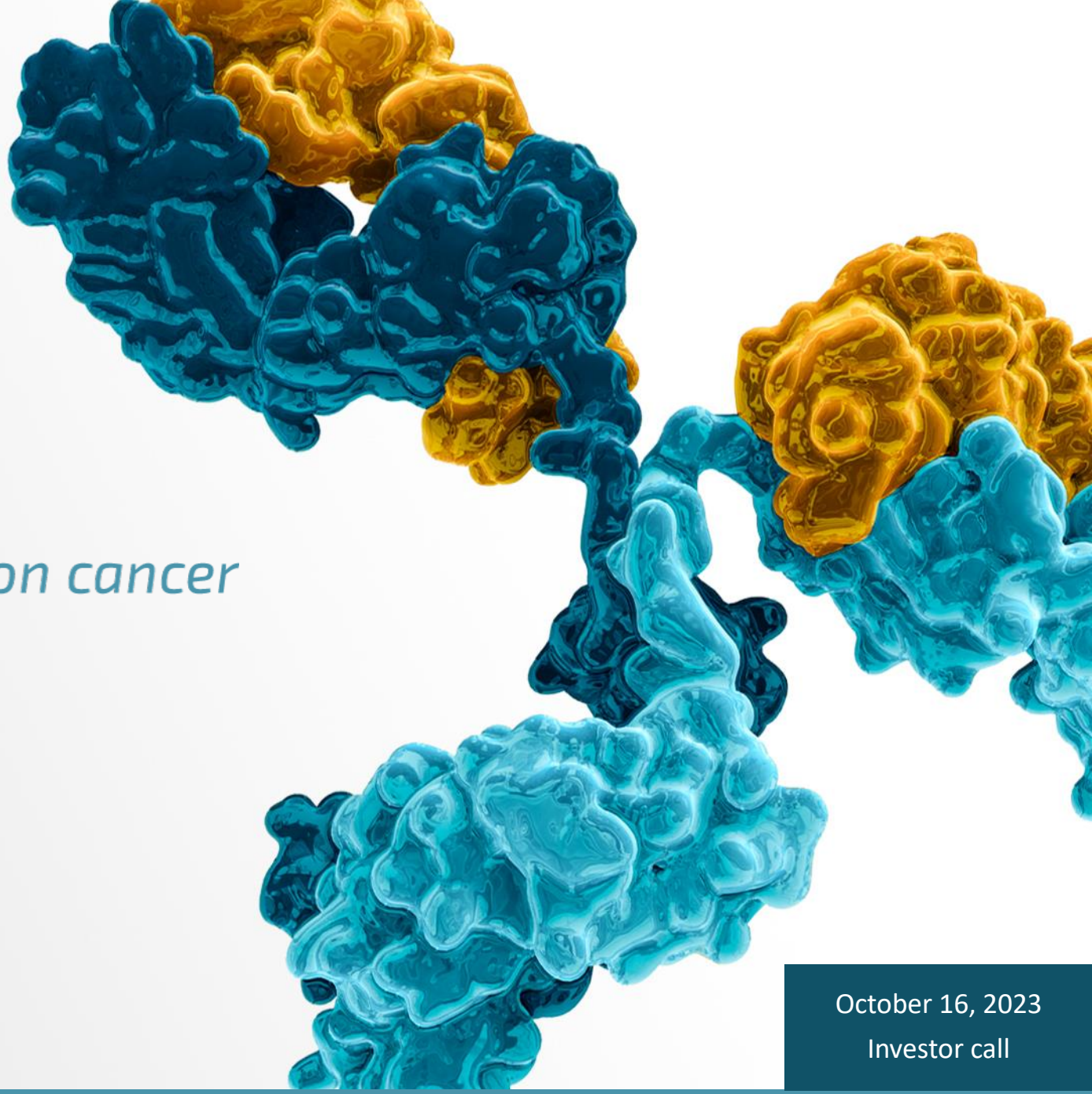
Merus *closing in on cancer*



SPEAKERS

Bill Lundberg, MD, MBA
CHIEF EXECUTIVE OFFICER

Cecile Geuijen, PhD
CHIEF SCIENTIFIC OFFICER

Andrew Joe, MD
CHIEF MEDICAL OFFICER

Kathleen Farren
IR/CORP COMMS

October 16, 2023

Investor call

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® and Triclonics® platforms 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, updates or results from our clinical trials and our collaborations, and anticipated cash runway. 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 antibody candidates; potential delays in regulatory approval and impacts of the COVID-19 pandemic or global instability, 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 therapies; 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 perform clinical development 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.

These and other important factors discussed under the caption “Risk Factors” in our Annual Report on Form 10-Q for the period ended June 30, 2023 filed on August 7, 2023 with the Securities and Exchange Commission, or SEC, 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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On the call

Bill Lundberg, MD, MBA
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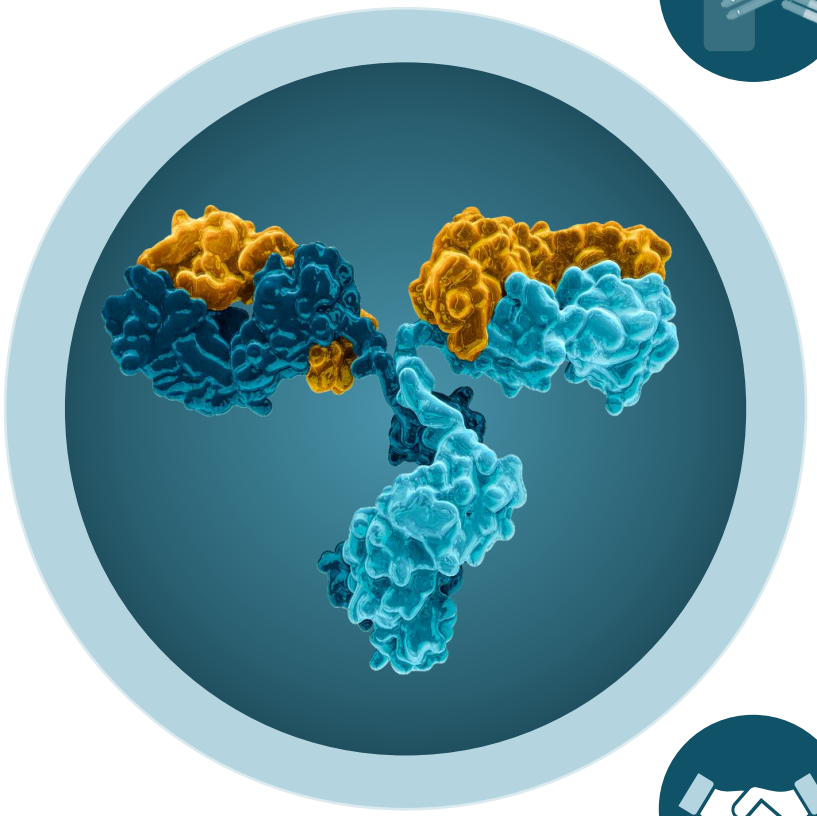
Merus Overview



Oncology-focused Company Developing Multispecific Antibody Therapies

- Bispecific and trispecific cancer therapeutic candidates in the human IgG format
- Common light chain technology permits broad, high throughput discovery of promising Biclonics® and Triclonics® antibodies with potential for meaningful clinical activity in patients

Established Pipeline with Multiple Active Molecules in the Clinic

- Petosemtamab granted fast track designation (FTD) for recurrent or metastatic head and neck squamous cell cancer (HNSCC)
- Zenocutuzumab (Zeno) granted breakthrough therapy designations (BTD) for NRG1 fusion (NRG1+) non-small cell lung cancer (NSCLC) and pancreatic cancer (PDAC) [2]
- MCLA-129 initial dose escalation in lung and other solid tumors presented at ENA 2022

Strong Cash Position into 2027[1]

- Sufficient data in 1H24 expected to support NRG1+ NSCLC and PDAC Biologics License Application (BLA) submissions
- Phase 3 trial of petosemtamab monotherapy in 2L+ HNSCC planned to start in mid-2024

Strategic Collaborations to Unlock Platform Value

- Multiple strategic collaborations and license agreements, leading to multiple Biclonics® candidates in clinical development for potential future milestone and royalty opportunities

[1] See August 11, 2023 8-K noting our belief that our cash, cash equivalents and marketable securities, will fund our operations into 2027

[2] For further details of FTD and BTD designations see prior releases https://ir.merus.nl/news-releases

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Agenda

1. MCLA-129
2. Zenocutuzamab
3. Petosemtamab
4. Conclusions
5. Q&A

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ESMO Asia Presentations

Singapore, December 1-3, 2023

MINI ORAL PRESENTATION

Efficacy and safety of MCLA-129, an anti-EGFR/c-MET bispecific antibody, combined with osimertinib, as first-line therapy or after progression on osimertinib in non-small cell lung cancer (NSCLC)

Date: Sunday, December 3, 2023
Time: 09:40 AM - 09:45 AM SGT

POSTER PRESENTATION

Efficacy and safety of MCLA-129, an anti-EGFR/c-MET bispecific antibody, in head and neck squamous cell cancer (HNSCC)

Date: Saturday, December 2, 2023
Time: 05:50 PM - 06:45 PM SGT

POSTER PRESENTATION

Durable efficacy of zenocutuzumab, a HER2 x HER3 bispecific antibody, in advanced *NRG1* fusion-positive (NRG1+) non-small cell lung cancer (NSCLC)
(encore from ESMO Congress 2023)

Date: Saturday, December 2, 2023
Time: 05:50 PM - 06:45 PM SGT

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ESMO 2023

Presented by Dr. Alison Schram, Memorial Sloan-Kettering Cancer Center

MINI ORAL PRESENTATION

Durable efficacy of zenocutuzumab, a HER2 x HER3 bispecific antibody, in advanced *NRG1* fusion-positive (NRG1+) non-small cell lung cancer (NSCLC)

Date: Saturday, October 21, 2023
Time: 9:35 - 9:40 CEST

POSTER PRESENTATION

Durable efficacy of zenocutuzumab, a HER2 x HER3 bispecific antibody, in advanced *NRG1* fusion-positive (NRG1+) pancreatic ductal adenocarcinoma (PDAC)

Date: Monday, October 23, 2023
Time: 9:00 - 17:00 CEST

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ESMO Congress 2023 Abstract Data: NRG1+ NSCLC

Robust and durable efficacy observed from interim data

Enrollment and efficacy population as of a February 1, 2023 data cutoff

- 85 patients with NRG1+ NSCLC were enrolled
- 64 patients with measurable disease were treated as of August 1, 2022 allowing for the potential for ≥ 6 months follow up

Meaningful Clinical Activity observed in 64 patients with measurable disease

- 34% overall response rate (ORR) (95% CI: 23-47) by RECIST 1.1v per investigator
- 78% of patients had target lesion reduction
- 12.9 months median duration of response (DOR)
- Responses were ongoing in 11 of 22 patients (50%) at the data cutoff

Extremely well tolerated & manageable safety profile[1]

- Grade ≥ 3 adverse events (AEs) occurred in < 4% of patients
- No patient discontinued Zeno due to treatment related AE

[1] *189 NRG1+ cancer patients treated with zenocutuzumab 750 mg Q2W monotherapy as of the Feb. 1, 2023 data cutoff*

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ESMO Congress 2023 Abstract Data: NRG1+ PDAC

Robust and durable efficacy observed from interim data

Enrollment and efficacy population as of a February 1, 2023 data cutoff

- 38 patients with NRG1+ PDAC were enrolled
- 27 patients with measurable disease were treated as of August 1, 2022 allowing for the potential for ≥ 6 months follow up

Meaningful Clinical Activity observed in 27 patients with measurable disease

- 44% ORR, including one complete response, by RECIST 1.1v per investigator (95% CI: 26-65)
- 81% of patients had target lesion reduction
- 84% of patients had CA 19-9 decline of ≥ 50% from baseline
- 9.1 months median DOR
- 33% of responses were ongoing at data cutoff

Extremely well tolerated & manageable safety profile[1]

- Grade ≥ 3 adverse events (AEs) occurred in < 5% of patients
- No patient discontinued Zeno due to treatment related AE

[1] *189 NRG1+ cancer patients treated with zenocutuzumab 750 mg Q2W monotherapy as of the Feb. 1, 2023 data cutoff*

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Zeno Regulatory Progress

Potential first and best in class for NRG1+ cancer

- More than **175 patients enrolled** as of June 2023 in the eNRGy trial and Early Access Program
- Granted **Breakthrough Therapy Designations** for both NRG1+ NSCLC and PDAC
- **Met with the FDA** to discuss the path to BLA submission for NRG1+ NSLCL and PDAC
- **Merus believes we will have sufficient data for both NRG1+ NSCLC & PDAC expected** in the 1H24 to support BLA submissions
- **Active discussions with potential commercial partners** expected to accelerate with progress towards BLA submission

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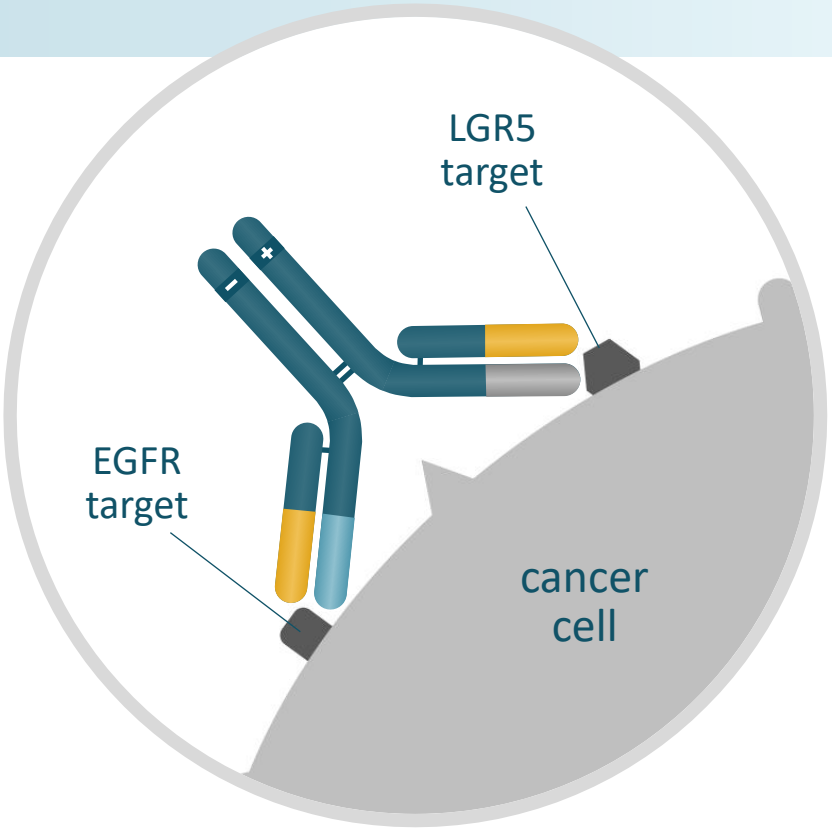
Potential first and best in class EGFR x LGR5 Biclonics® designed to potently block dysregulated signaling and growth in solid tumors[1]

Petosemtamab

MCLA-158
EGFR x LGR5 bispecific

- Targets EGFR and LGR5, a cancer-stem cell antigen
- Designed to block growth in WNT-dysregulated tumor models including Ras^{mut}
- Modifications to enhance antibody-dependent cell-mediated cytotoxicity (ADCC)
- AACR 2023[2]: Meaningful clinical activity observed in previously treated (2L+) HNSCC
- Granted FTD for recurrent or metastatic HNSCC[3]
- Phase 3 trial in previously treated (2L+) HNSCC planned to start mid-2024
- Cohort ongoing in previously untreated HNSCC in combo with Keytruda®



[1] Herpers et al, Nature Cancer, 3, 418–36, 2022 [2] Cohen, et al. AACR 2023 [3] For details and complete description of FTD designation see prior releases https://ir.merus.nl/news-releases

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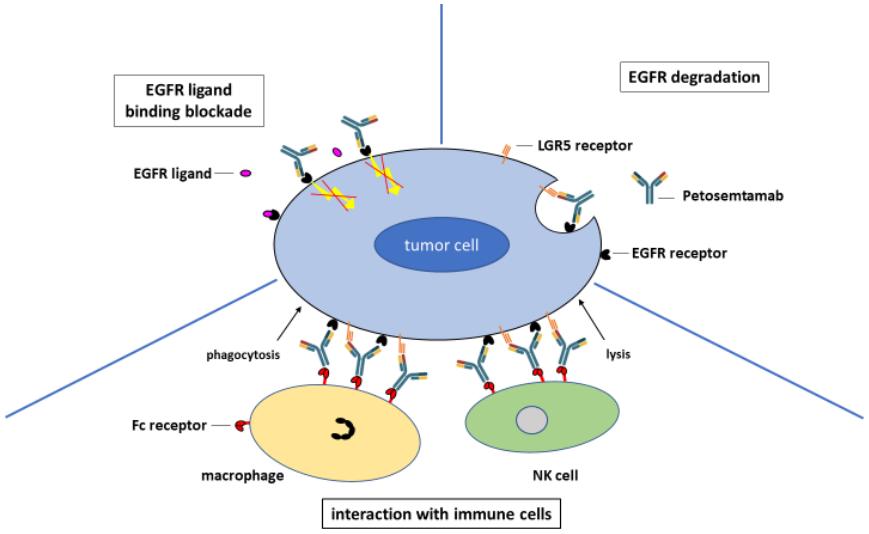
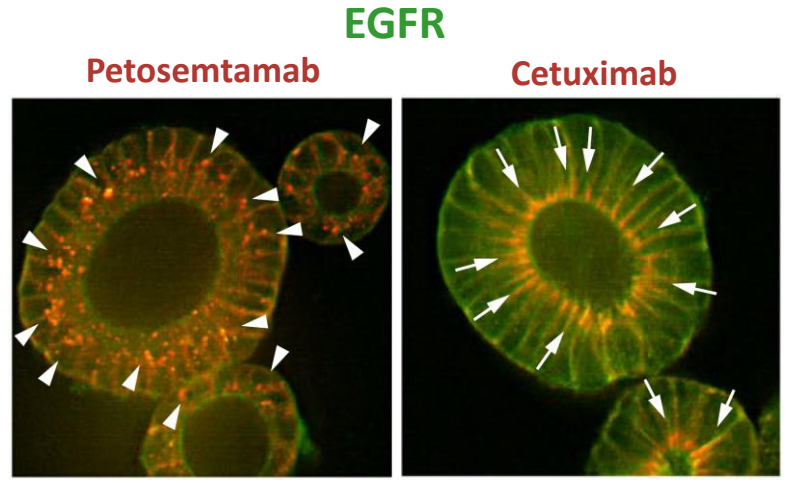
Petosemtamab — Unique Mechanism of Action

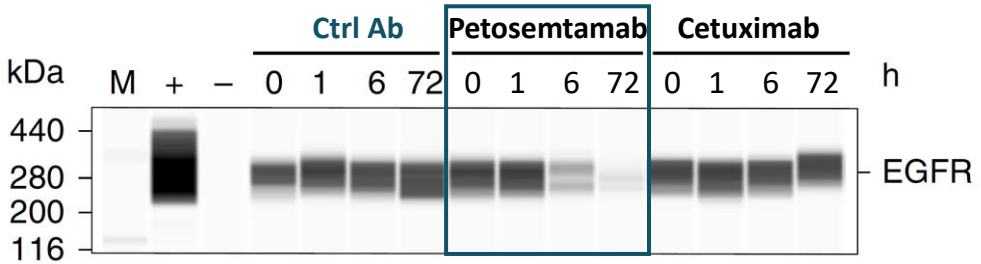
Mechanism of Action[1]



- Blocks EGFR ligand and inhibits signaling
- Degrades EGFR (via LGR5/E3 ligase)
- Facilitates interaction with immune cells (ADCC and antibody-dependent cellular phagocytosis enhanced antibody)[1]

Induces EGFR Internalization and Degradation[1]





[1] Herpers et al, Nature Cancer, 3, 418–36, 2022

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Phase 1/2 Trial

Cohort Expansion in HNSCC[1]

Dose escalation is completed: No DLTs were reported; the dose of 1500 Cohort Expansion in HNSCC mg Q2W was selected based on safety, PK, and predicted receptor occupancy.[2]

Key HNSCC Inclusion Criteria

- Progression on or intolerant to anti-PD-(L)1 and platinum-based therapy in incurable recurrent or metastatic disease
- ECOG PS 0-1
- Measurable disease

Treatment Plan

- Petosemtamab 1500 mg IV, Q2W, 28-day cycle
- Until PD or toxicity
- Tumor assessment Q8W

Follow-Up

Survival follow-up for up to 18 months

Objectives and Analysis Population

- **Primary objective:** ORR using RECIST 1.1 per investigator
- **Secondary objectives:** ORR (per central review), DOR and PFS (per investigator and central review), OS, safety, PK, immunogenicity, and biomarkers
- **Efficacy evaluable population:** patients with ≥2 treatment cycles (≥8 weeks) with ≥1 post-baseline tumor assessment or discontinued early due to disease progression or death

Enrollment and Interim Analysis

Data cutoff date

01-Feb-2023

Enrollment

49 patients

Efficacy evaluable population

43 patients

6 patients excluded per protocol:

- 5 patients withdrew due to IRR on Day 1
- 1 patient with excl. criterion deviation

[1] *Cohen, et al., AACR 2023* [2] *Argiles et al. J Clin Oncol. 39(3_suppl):Abst 62, 2021*

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HNSCC Patient Population

Demographics and Disease Features

Demographics and Disease Features	N=49
Age (years), median (range)	63 (31 - 77)
Male / female	38 (78%) / 11 (22%)
ECOG PS 0 / 1	14 (29%) / 35 (71%)
Squamous cell carcinoma histology	48 (98%)[1]
Tumor location	
• Oropharynx	17 (35%)
• Oral cavity	15 (31%)
• Larynx	8 (16%)
• Hypopharynx	4 (8%)
• Other	5 (10%)[2]
Measurable disease	48 (98%)

[1] *One patient had p16-negative epidermoid cancer with unknown origin*
[2] *Other: nasal cavity and paranasal sinuses, nasopharynx, supraglottis, vocal cord, unknown origin*

Tumor Biomarkers	N=49
EGFR	
• H-score[3], median (range) (n=35)	170 (0 - 300)
PD-L1	
• Positive (CPS[3] ≥1) / negative	20 (41%) / 9 (18%)
• Unknown[4]	20 (41%)
p16 status: oropharynx	**N=17**
• p16 positive / negative[3]	6 (35%) / 3 (18%)
• Unknown[4]	8 (47%)

[3] *By immunohistochemistry*
[4] *Unknown: not yet available or analyzed, not collected, or inadequate quality*

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HNSCC Patient Population

Prior Therapy, Disposition, and Exposure

Prior Cancer Therapy	N=49
No. lines prior systemic therapy, median (range)	2 (1 - 4)
• PD-(L)1 inhibitor	47 (96%)
• Chemotherapy	46 (94%)
• Platinum-based therapy	45 (92%)
• Cetuximab	2 (4%)
Last therapy prior to petosemtamab	
• Immunotherapy	27 (55%)
• Immunotherapy + chemotherapy	14 (29%)
• Chemotherapy	7 (14%)
• Investigational	1 (2%)

Patient Disposition	N=49
Petosemtamab treatment	
Treatment continuing	12 (25%)
Treatment discontinuation	37 (75%)
• Disease progression	31 (63%)
• Related adverse event[1]	4 (8%)
• Other[2]	2 (4%)
Petosemtamab exposure duration, months	
▪ Median (range)	4.1 (0.5 - 20.8)

[1] *Grade 3-4 IRR*

[2] *End of study reason was physician decision following IRR on Day 1 for one patient and one patient died due to underlying disease*

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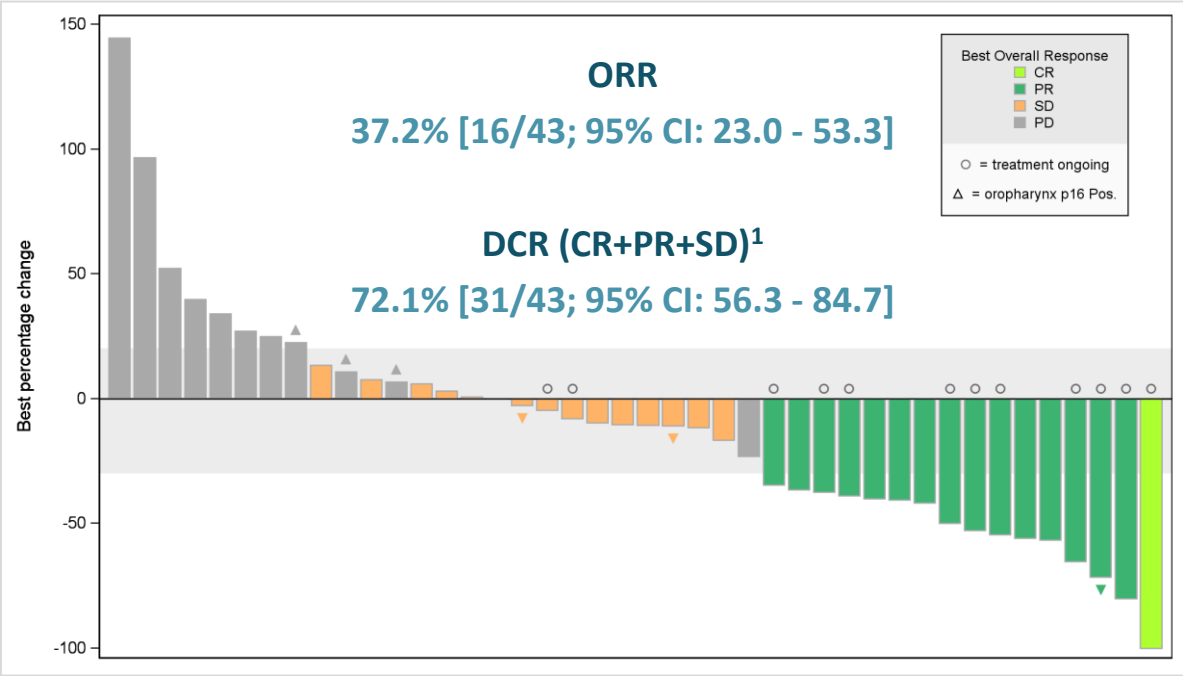
Robust Data Supporting Clinical Efficacy in HNSCC

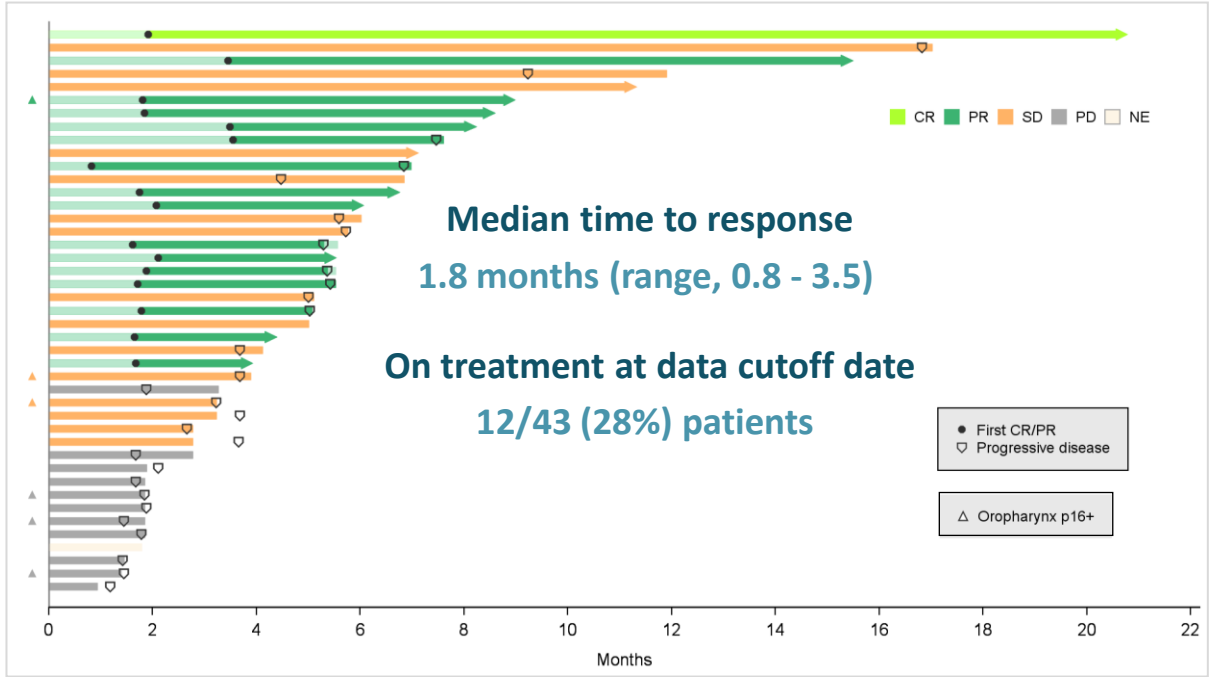
Overall response rate (ORR) 37%

Best Percent Change in Sum of Target Lesions From Baseline (N=43)



One patient with best overall response of not evaluable not included due to no post-baseline tumor assessment
p16 status was available in 9 of the 15 oropharynx patients (6 positive and 3 negative) in the efficacy evaluable population

Time to Response and Duration of Therapy



Arrows indicate treatment is ongoing at data cutoff date
p16 status was available in 9 of the 15 oropharynx patients (6 positive and 3 negative) in the efficacy evaluable population

[1]*DCR, disease control rate; CR, complete response; PR, partial response; SD, stable disease*

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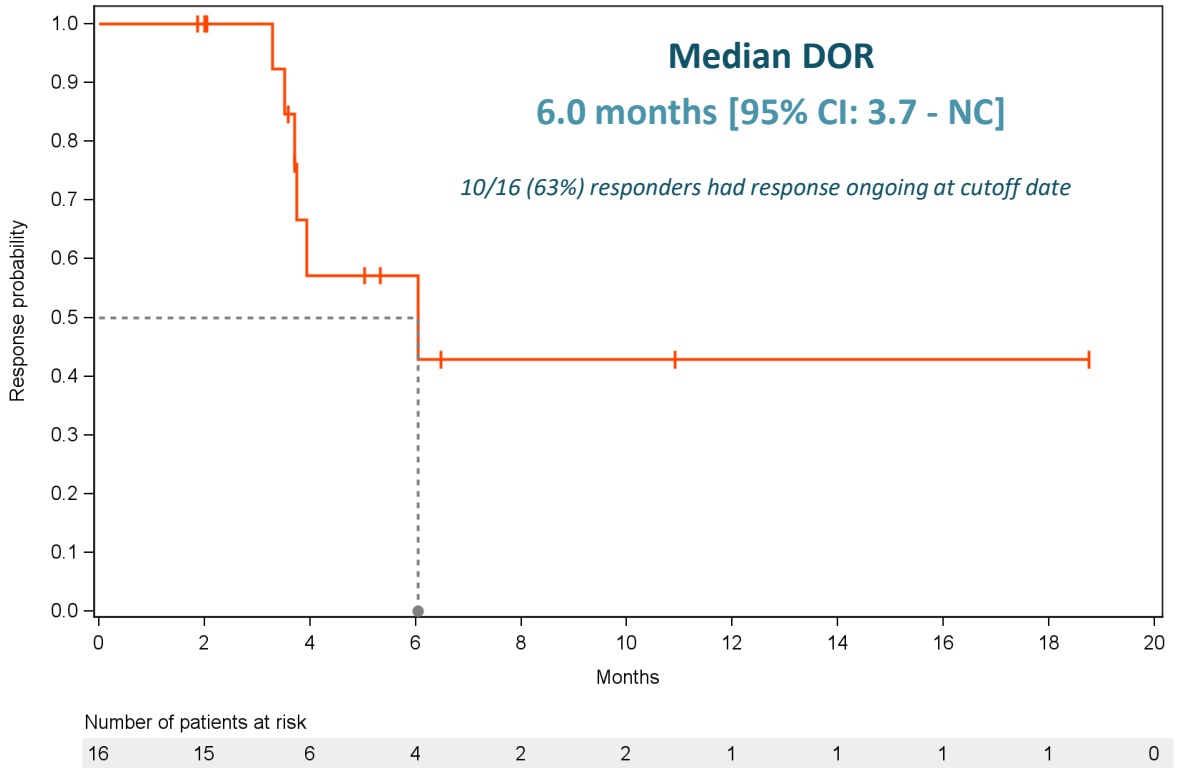
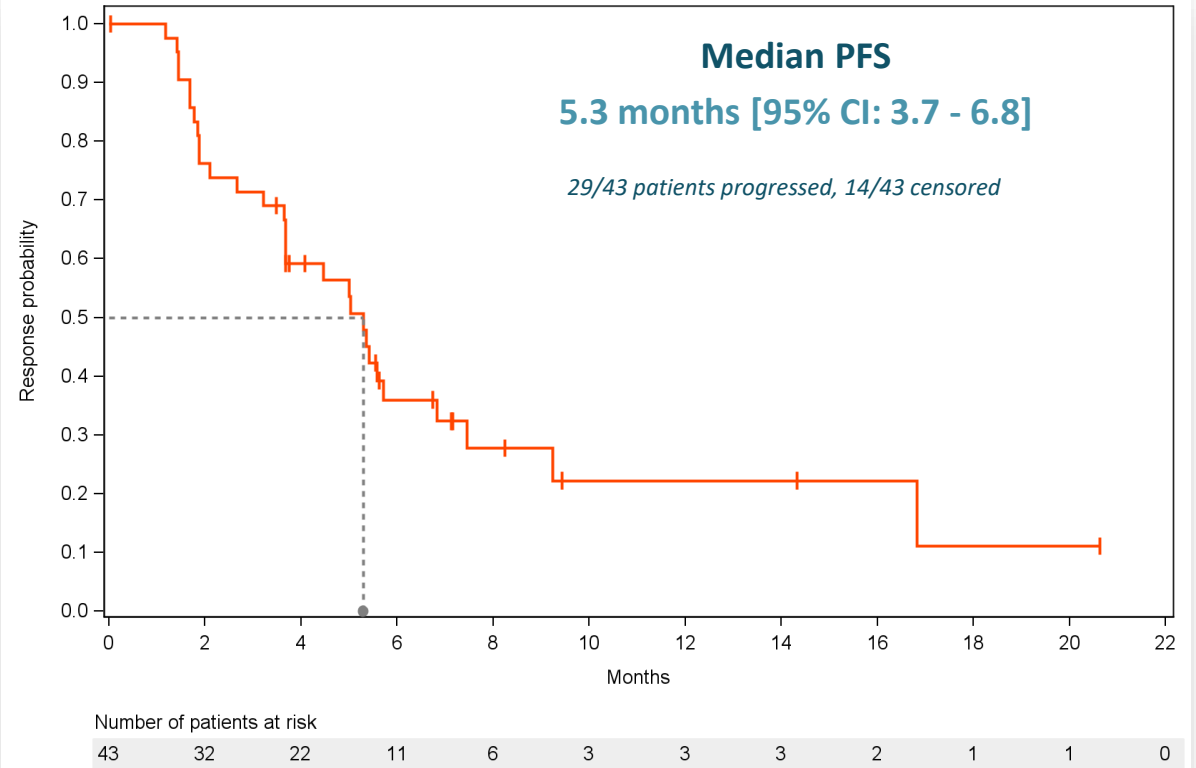
Petosemtamab Antitumor Activity in HNSCC

DOR, PFS (RECIST 1.1, per Investigator), and OS[1]





Median OS

11.5 months [95% CI: 7.2 - 20.6]

29/49 patients still alive at data cutoff date

[1]*DOR, duration of response; PFS, progression free survival, OS, overall survival*

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Safety Profile of Petosemtamab 1500 mg Q2W

Overall Safety

- **Well tolerated** and manageable safety profile based on 80 patients treated at the recommended dose across dose escalation and expansion cohorts of the study
- Gastrointestinal and skin toxicities were mostly mild to moderate
- No treatment-related grade 5 adverse events (AEs)

IRRs (Composite Term)*

- 74% grade 1-4, 21% grade 3-4
- Mainly occurred during first infusion
- 6 of 80 patients discontinued on Day 1 due to a grade 3-4 infusion related reaction (IRR)
- For all patients rechallenged after an IRR, rechallenge was successful
- IRRs were manageable with prophylaxis/ prolonged infusion (necessary on Day 1 only)

Preferred Term	Irrespective of Causality (>10%)		Suspected Related	
	All Grades	Grades 3-5[1]	All Grades	Grades 3-5
N patients with ≥1 AE	**80 (100%)**	**42 (53%)**	**80 (100%)**	**26 (33%)**
Rash	29 (36%)	0	29 (36%)	0
Dyspnea	22 (28%)	3 (4%)	13 (16%)	3 (4%)
Hypotension	21 (26%)	5 (6%)	20 (25%)	5 (6%)
Nausea	21 (26%)	1 (1%)	14 (18%)	0
Dermatitis acneiform	20 (25%)	1 (1%)	20 (25%)	1 (1%)
Infusion related reaction	17 (21%)	10 (13%)	16 (20%)	10 (13%)
Blood Mg decreased	16 (20%)	4 (5%)	13 (16%)	3 (4%)
Diarrhoea	16 (20%)	0	7 (9%)	0
Erythema	15 (19%)	0	15 (19%)	0
Fatigue	13 (16%)	1 (1%)	5 (6%)	0
Asthenia	12 (15%)	2 (3%)	5 (6%)	1 (1%)
Pruritus	11 (14%)	0	11 (14%)	0
Constipation	11 (14%)	0	2 (3%)	0
Skin fissures	11 (14%)	0	11 (14%)	0
Decreased appetite	9 (11%)	2 (3%)	0	0
Dry skin	9 (11%)	0	8 (10%)	0
Flushing	9 (11%)	2 (3%)	8 (10%)	2 (3%)
Headache	9 (11%)	0	7 (9%)	0
Hypoxia	9 (11%)	2 (3%)	7 (9%)	1 (1%)
Pyrexia	9 (11%)	0	3 (4%)	0
Stomatitis	9 (11%)	0	8 (10%)	0

[1] *2 patients had Grade 5 AEs not related to treatment*

* Composite term for signs and symptoms during 24 h after initiating the petosemtamab infusion, that investigators judge as an infusion-related reaction (IRR); includes the AE PT "IRR" and other PTs

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Petosemtamab

Potential first and best in class bispecific targeting EGFR and LGR5

Meaningful Clinical Activity observed in previously treated HNSCC[1]

- 37.2% ORR (95% CI: 23.0-53.3)
- 6 months median DOR (95% CI: 3.7-NC)
- Antitumor activity independent of biomarkers

Generally well tolerated & manageable safety profile[1]

- Gastrointestinal and skin toxicities were mostly mild to moderate
- Most frequent related AEs were infusion related reactions (IRRs)
- IRRs were manageable with prophylaxis/ prolonged infusion (necessary on Day 1 only)

Potential new standard of care for patients with HNSCC

- Limited treatment options after pembrolizumab and platinum-based chemotherapy
- Significant market opportunity

Powerful single agent efficacy

2L+ HNSCC phase 3 trial planned to start mid-2024

INTERLINK-1 control arm confirms planned phase 3 trial design

1L HNSCC evaluation of petosemtamab with Keytruda® ongoing; clinical update planned 1H24

[1] *Based on interim data presented at AACR with a Feb. 1, 2023 cutoff date, Cohen, et al., AACR 2023*

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Merus Potential Milestones 2023-2024

PETOSEMTAMAB in head and neck & other cancers (MCLA-158)	☑ **Update on path to potential registration** in HNSCC ☐ **Initiate phase 3** monotherapy trial in 2L+ HNSCC (planned to start mid-2024) ☐ **Evaluate the safety and tolerability** of petosemtamab with Keytruda® as front-line therapy for advanced HNSCC expressing PD-L1 (CPS ≥ 1) (clinical update planned 1H24) ☐ **Clinical data** update on monotherapy in 2L+ HNSCC, including dose evaluation cohort (planned 2024)
ZENOCUTUZUMAB in NRG1+ cancer & CRPC (Zeno, MCLA-128)	☑ **Granted BTD for NRG1+ NSCLC & PDAC** ☐ **Update clinical data** in NRG1+ NSCLC & PDAC (ESMO 2023) ☐ **Initial clinical data** in CRPC in combination with an ADT (planned 2H23) ☐ **Enrollment and clinical follow up** expected in 1H24 to support potential BLA submissions in NRG1+ NSCLC & PDAC
MCLA-129 in NSCLC & other cancers	☐ **Initial clinical data** update from expansion cohorts (planned for ESMO Asia 2023) ☐ **Update clinical development strategy** (planned for ESMO Asia 2023)

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