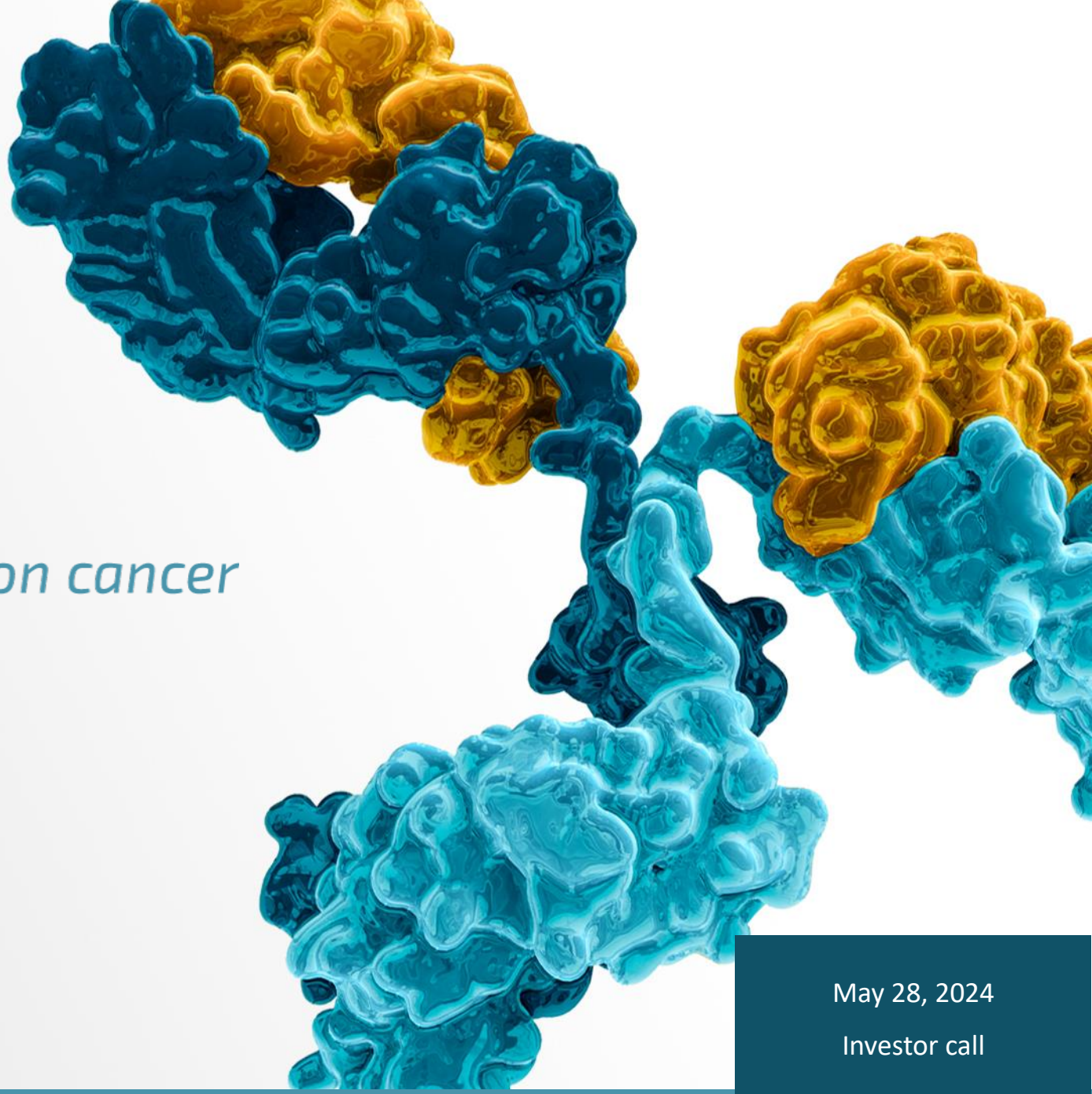
Merus *closing in on cancer*



SPEAKERS

Bill Lundberg, MD, MBA
CHIEF EXECUTIVE OFFICER

Shannon Campbell
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Kathleen Farren
IR/CORP COMMS

May 28, 2024

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 intellectual property, 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 market volatility, and global conflict in Russia, Ukraine and the Middle East, 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 stage of 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 Quarterly Report on Form 10-Q for the period ended March 31, 2024 filed on May 8, 2024 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

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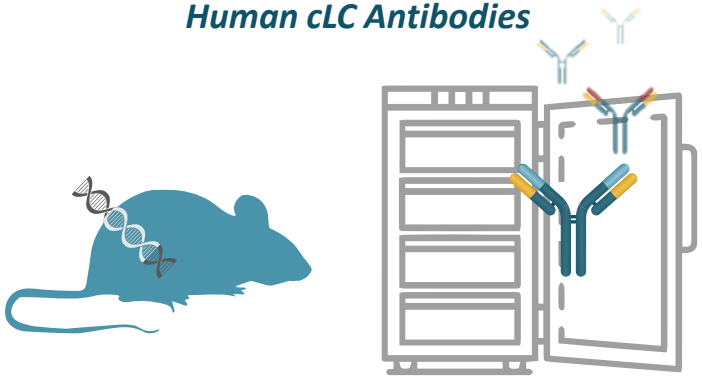
Merus

Our Platform – Unique Capabilities in Multispecific Antibodies

Generate

Human cLC Antibodies



Patented Mouse Technology

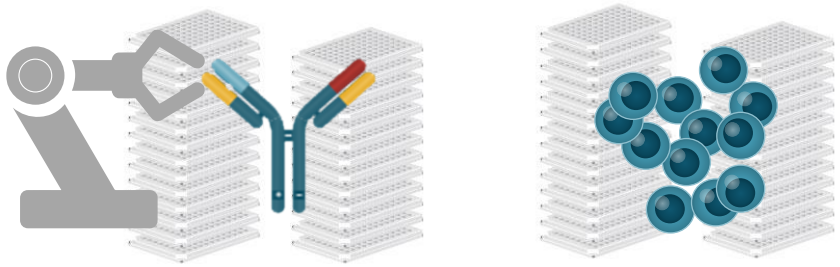
"Merus Mouse" (MeMo®) to generate diverse, high quality common light chain (cLC) antibody panels

Established Inventory

Diverse panels of cLC antibodies against numerous targets

Evaluate

Thousands of Multispecific Abs



Multiclonics® Libraries

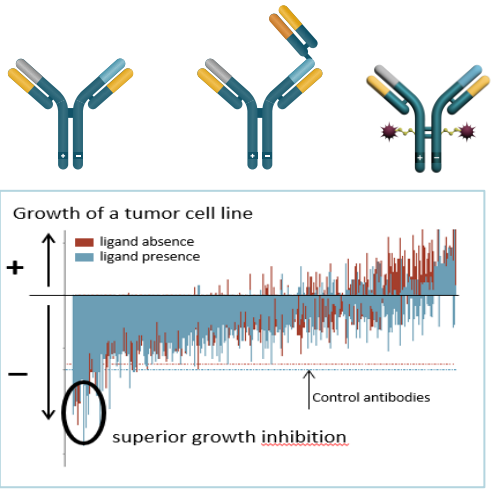
Robotics generate thousands of Multiclonics® by combining cLC antibody panels and our patented "DEKK" IgG heterodimerization technology

Unbiased Screening

In-format, unbiased functional screening in relevant molecular and cellular assays

Identify

Best Candidates



Develop unique, best candidates from thousands of different Biclonics® and Triclonics® with potential to achieve meaningful clinical activity in patients

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Merus Clinical Pipeline

PROGRAM	BISPECIFIC TARGETS	INDICATION(S)	PRECLINICAL	PHASE 1	PHASE 1/2	STATUS
Petosemtamab (MCLA-158)	EGFR x LGR5	2L+ HNSCC				• 2L+ Monotherapy phase 3 trial planned to start mid-2024 • Clinical update on 2L+ planned 2H24 (AACR 2023 follow-up and dose evaluation cohorts) • Clinical update on 1L combination planned 2024 ASCO® • 1L Combination phase 3 trial planned to start by year end • 2L CRC planned to start 2024
		1L HNSCC with a PD1 inhibitor				
		2L CRC with standard chemotherapy				
Zenocutuzumab (Zeno) (MCLA-128)	HER2 x HER3	NRG1+ cancer				• BLA accepted for priority review for NRG1+ NSCLC & PDAC
		Other cancers				
MCLA-129	EGFR x c-MET	Solid tumors				• Clinical update on MET exon14 skipping NSCLC planned 2024 ASCO® • Combination with chemotherapy planned to start 2024
		2L+ EGFRm NSCLC with chemotherapy				
MCLA-145	CD137 x PD-L1	Solid tumors with a PD1 inhibitor				• Clinical update planned 2024 ASCO®

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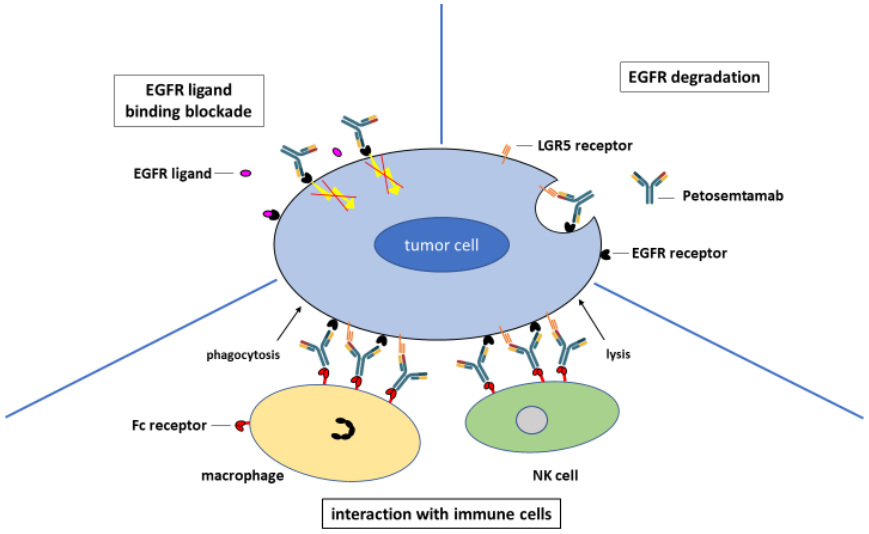
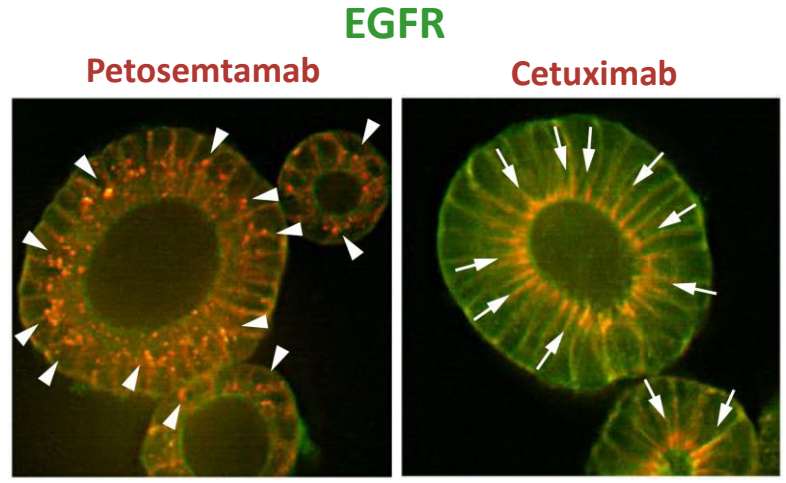
Petosemtamab — Unique Mechanism of Action

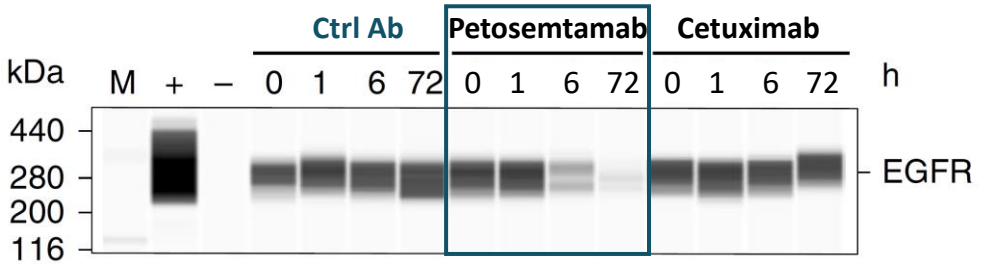
Mechanism of Action[1]



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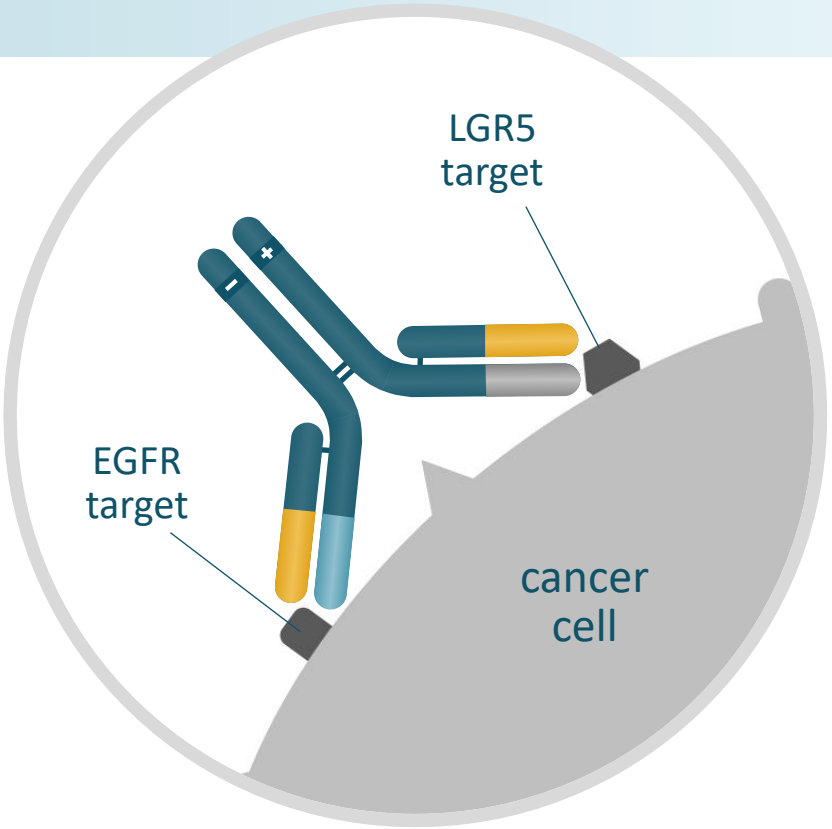
Potential first and best in class EGFR x LGR5 Biclonics® designed to potently block dysregulated signaling and growth in solid tumors[1]

Petosemtamab

MCLA-158

EGFR x LGR5 bispecific

- Targets EGFR and LGR5, a cancer-stem cell antigen; modifications to enhance antibody-dependent cell-mediated cytotoxicity (ADCC)
- Granted FTD and BTD for recurrent or metastatic HNSCC[3]
- Meaningful clinical activity in 2L+ HNSCC as monotherapy at AACR® 2023[2]; clinical data update planned for 2H24 and phase 3 trial planned to start mid-2024
- Meaningful clinical activity in 1L r/m PD-L1+ HNSCC in combination with pembrolizumab at ASCO 2024[3]; phase 3 trial in combination with pembrolizumab planned to start by year end 2024
- Dose comparison of petosemtamab monotherapy 1100 vs 1500 mg in 2L+ HNSCC ongoing; initial clinical data planned 2H24
- Cohort in 2L CRC planned to start in 2024



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

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Petosemtamab (MCLA-158) with pembrolizumab as first-line (1L) treatment of recurrent/metastatic (r/m) head and neck squamous cell carcinoma (HNSCC): Phase 2 study

Rapid Oral Presentation 2024 ASCO®

Monday June 3, 2024: 8:00 AM - 09:35 AM CT

Merus

2024 ASCO® Abstract: Petosemtamab plus pembrolizumab in 1L r/m HNSCC

Petosemtamab 1500 mg q2W with pembrolizumab 400 mg q6W

Abstract data published on May 23, 2024

Enrollment and efficacy population as of a November 6, 2023 data cutoff

- 26 patients were treated, with 24 pts continuing therapy
- Median age was 62.5 years (range 23–80)
- Median of 2 cycles of petosemtamab administered

Clinical activity[1] reported in 10 patients evaluable for efficacy (≥2 cycles and ≥1 post-baseline scan, or early PD or death)

- 60% response rate: 1 CR, 2 PR, and 3 unconfirmed PR (2 confirmed as of abstract submission; 3rd also subsequently confirmed)
- All 6 responders were on treatment at data cutoff

Safety profile (n=26)

- The combination was well tolerated and no significant overlapping toxicities were observed
- Treatment-emergent adverse events (AEs) were reported in all pts, most Grade 1-2 in severity, no Grade 4 or 5 observed

[1]*RECIST v1.1 per investigator assessment; CR, complete response; PR, partial response; PD, progressive disease; Pts, patients*

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2024 ASCO® Presentation: Petosemtamab plus pembrolizumab in 1L r/m HNSCC

67% response rate among 24 evaluable patients

Data will be presented June 3, 2024

Enrollment and efficacy population as of a March 6, 2024 data cutoff

- 45 patients were treated, with 32 pts continuing therapy[1]
- Median age was 64 years (range 23–80); 78% were male; ECOG PS 0 and 1 in 16 and 29 pts respectively
- Primary tumor locations: 38% oral cavity; 31% oropharynx; 16% larynx; 11% hypopharynx

Clinical activity[2] reported in 24 pts (of the 26 pts described in the abstract), and comprises those with the opportunity for ≥4 months follow up and ≥2 cycles of petosemtamab treatment with ≥1 post-baseline scan, or early PD or death

- 67% response rate with 1 CR, 12 PR, 3 unconfirmed PR (all confirmed after data cutoff)
- Responses across PD-L1 levels: CPS 1-19: 60% (6/10); CPS ≥ 20: 71% (10/14)
- Responses in both HPV- and HPV+ cancers: p16-: 13/20; p16+: 3/4
- 32 of 45 patients remained on treatment as of data cutoff, including 14 of 16 responders and 18 of initial 26 patients

Safety profile (n=45)

- The combination was well tolerated and no significant overlapping toxicities were observed
- Treatment-emergent adverse events (AEs) were reported in 26 pts, and most were Grade 1-2 in severity, no Grade 4 or 5 observed
- Infusion related reactions (IRRs) (composite term), reported in 38% (All Grades); 7% were Grade 3
- Most IRRs occurred during the first infusion and resolved

[1]Of those patients that discontinued, 9 for disease progression; 2 withdrawal of consent; 1 death (unrelated to treatment); and 1 related AE (asthenia, diarrhea, creatinine increase; all Grade <3)
[2]RECIST v1.1 per investigator assessment, excludes one patient who withdrew consent prior to first tumor assessment and one patient discontinued due to toxicity with less than 2 cycles of treatment
CR, complete response; PR, partial response; PD, progressive disease; IRR, infusion-related reactions; HPV, human papilloma virus; AE, adverse events; Pts, patients

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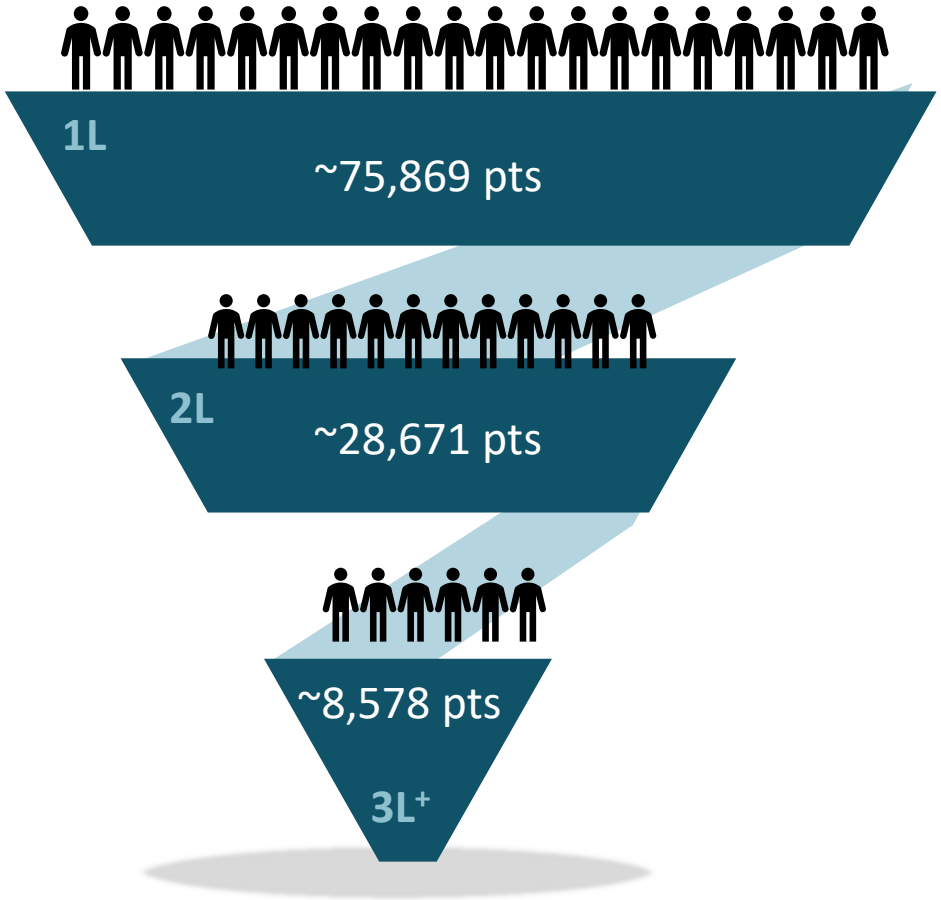
Head & Neck Cancer

Petosemtamab has the potential to become a new standard of care

Est G8 Patients; Stage IVC[1] Head & Neck Cancer 2024



High Prevalence, Mortality & Unmet Need

- 6th most common cancer worldwide (WW) in 2020 with ~930,000 new cases and 467,000 deaths[2]
- Incidence rising; anticipated to increase by 30% to >1 million new cases annually by 2030[3]

Treatment Paradigm Trends

- **1L**: Pembrolizumab-based regimens are preferred
- **2L+**: Highly fragmented market no clear established standard of care (SOC)

Petosemtamab Opportunity in Head & Neck Cancer

- WW Market expected to exceed $5.1 B in 2028[4]
- Limited treatment options after platinum-based chemotherapy + pembrolizumab
- Opportunity for chemo-free regimen 1L in combo with pembrolizumab
- Demonstrated activity in HPV+ and HPV- patient populations

[1] Data: 2024 Kantar CancerMPact Epidemiology (Drug Treated) Pulled May 2024. Estimates rounded. Statistics from CancerMPact® Patient Metrics. G8 Includes: US,FR,DE,IT,SP,UK,JP, CN (Urban only 2023); [2] Sung et al. CA Cancer J Clin, 71:209-49, 2021; [3] Johnson, D.E., Burtness, B., Leemans, C.R. et al. Head and neck squamous cell carcinoma. Nat Rev Dis Primers 6, 92 (2020); [4]Evaluate Pharma data pulled 2/14/2024

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Conclusions

Potential first and best in class bispecific targeting EGFR and LGR5

Meaningful Clinical Activity observed in first line HNSCC

- 67% (16/24) response rate[1]
- Responses observed in both HPV-negative (p16-) and positive (p16+) cancer, and across CPS subgroups

Well tolerated & manageable safety profile

- No significant overlapping toxicities
- Favorable safety profile including manageable IRRs
  - 38% all Grades, 7% Grade 3; no Grade 4 or 5

Potential new standard of care for patients with HNSCC

- Superior response rate observed over standard of care in both 1L and 2L+
- Opportunity for chemo-free regimen
- Significant market opportunity
- Potential opportunity for accelerated approval consistent with Project FrontRunner[2]

Petosemtamab in combination with pembrolizumab is clinically active and well tolerated

1L HNSCC phase 3 trial planned to start by year end 2024

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

[1]RECIST v1.1 per investigator assessment, excludes one patient who withdrew consent prior to first tumor assessment and one patient discontinued due to toxicity with less than 2 cycles of treatment.
[2]Subject to future, expected communication with the U.S. FDA.

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