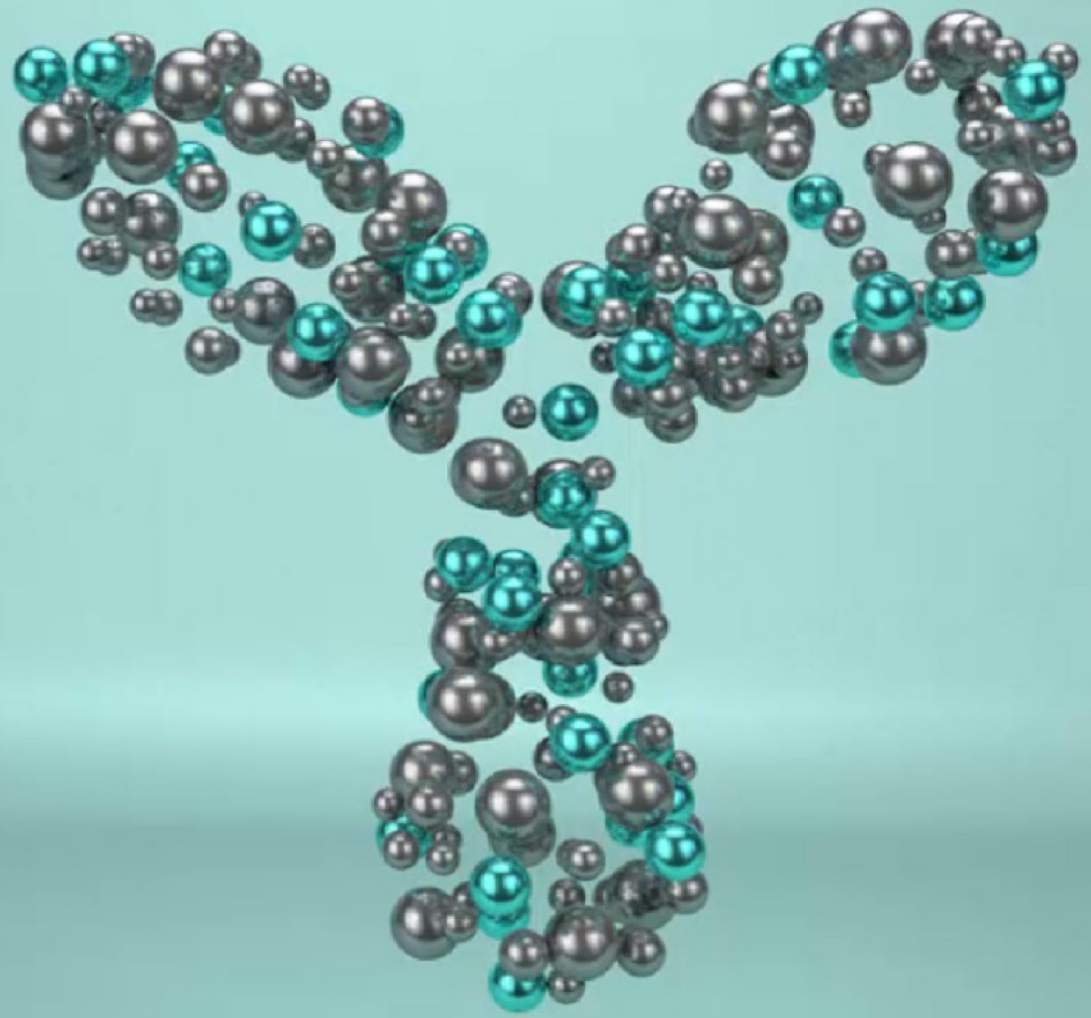
Genmab

Working to Transform the Future of Cancer Treatment



40th Annual J.P. Morgan Healthcare Conference

January 12, 2022

Forward looking statement

This presentation contains forward looking statements. The words “believe”, “expect”, “anticipate”, “intend” and “plan” and similar expressions identify forward looking statements. All statements other than statements of historical facts included in this presentation, including, without limitation, those regarding our financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to our products), are forward looking statements. Such forward looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward looking statements. Such forward looking statements are based on numerous assumptions regarding our present and future business strategies and the environment in which we will operate in the future. The important factors that could cause our actual results, performance or achievements to differ materially from those in the forward looking statements include, among others, risks associated with product discovery and development, uncertainties related to the outcome of clinical trials, slower than expected rates of patient recruitment, unforeseen safety issues resulting from the administration of our products in patients, uncertainties related to product manufacturing, the lack of market acceptance of our products, our inability to manage growth, the competitive environment in relation to our business area and markets, our inability to attract and retain suitably qualified personnel, the unenforceability or lack of protection of our patents and proprietary rights, our relationships with affiliated entities, changes and developments in technology which may render our products obsolete, and other factors. Further, certain forward looking statements are based upon assumptions of future events which may not prove to be accurate. The forward looking statements in this document speak only as at the date of this presentation. Genmab does not undertake any obligation to update or revise forward looking statements in this presentation nor to confirm such statements to reflect subsequent events or circumstances after the date made or in relation to actual results, unless required by law.

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Towards 2025:
Evolving Into a Fully Integrated Biotech Innovation Powerhouse

Core Purpose

To improve the lives of patients
by creating & developing innovative antibody products

Our Strategy

- ✓ Focus on core competence
- ✓ Turn science into medicine
- ✓ Build a profitable & successful biotech

Vision

By 2025, our own product has transformed cancer treatment and we have a pipeline of knock-your-socks off antibodies

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Well Positioned for Growth

- Consistent and solid track record
- Experienced world-class team
- Innovative proprietary technologies and first-in-class / best-in-class pipeline
- Partnerships with innovators and industry leaders
- Strong financials to invest in growth opportunities

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Solid Track Record and Financial Foundation Fuel Our Growth

- ✓ 39 Cumulative INDs since 1999
- ✓ Innovative clinical pipeline: 7 Genmab owned ≥50%
- ✓ 5 approved medicines based on Genmab's innovation and antibody expertise
- ✓ First medicine on the market: TIVDAK® (tisotumab vedotin-tftv), co-promoting with Seagen in U.S.

- ✓ Growing recurring revenue
- ✓ Sustainably profitable with USD 3B in cash
- ✓ Investing in our capabilities
- ✓ Experienced, international leadership team

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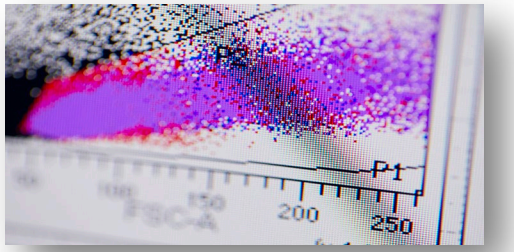
TIVDAK is being co-developed and co-promoted by Genmab and Seagen.

The Genmab Model

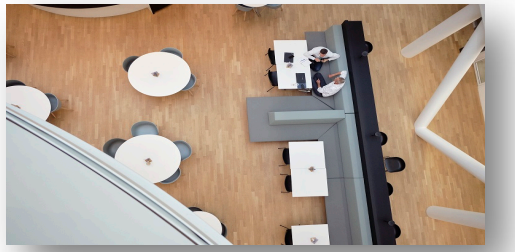
Deep insight into antibody biology & disease targets

- Solid tumors
- B-cell NHL
- Multiple Myeloma



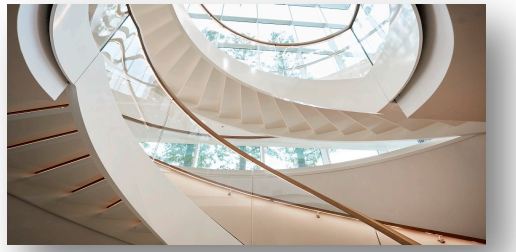
Proprietary technologies enable us to build a world-class pipeline

- DuoBody®
- HexaBody®
- DuoHexaBody®
- HexElect®



Match in-house expertise with strategic partnerships

- Discovery / academic collaborations
- Technology collaborations
- Product partnerships & collaborations

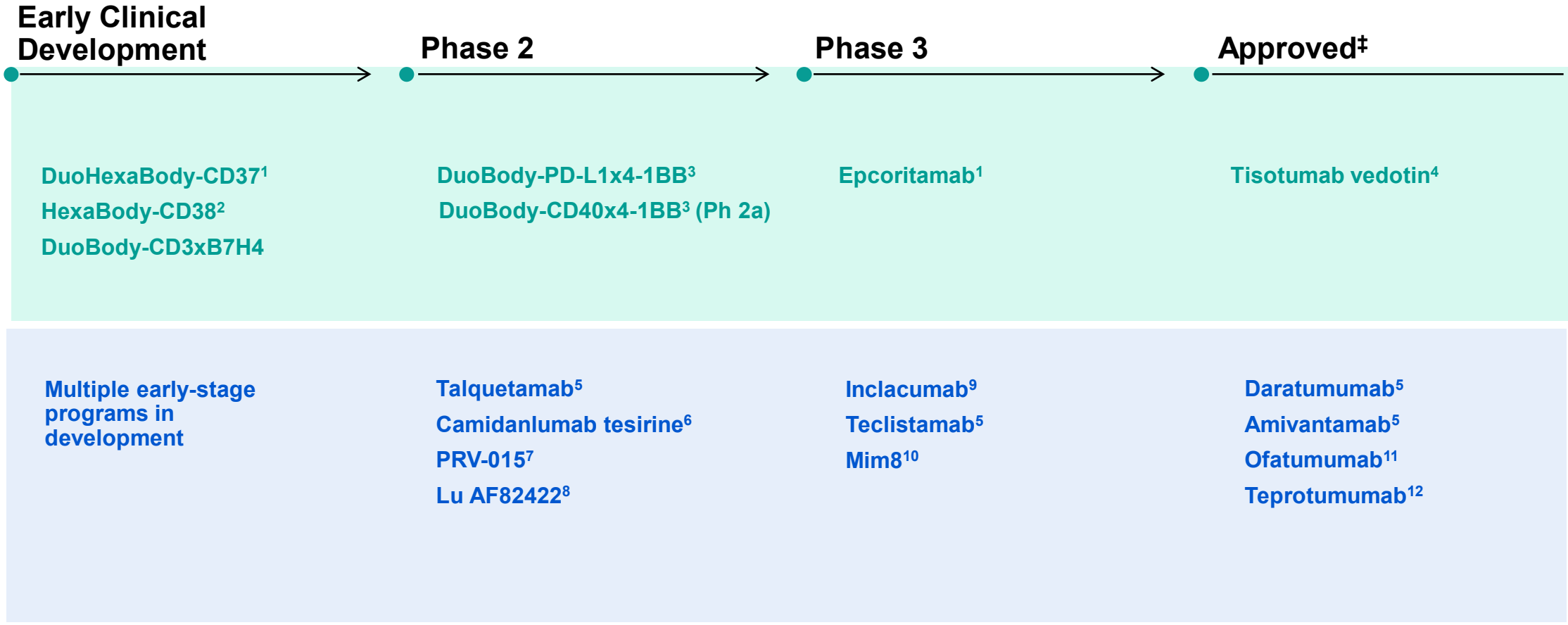


Strong pipeline of 1st-in-class / best-in-class products

- Tisotumab vedotin
- Epcoritamab
- DuoBody-PD-L1x4-1BB
- DuoBody-CD40x4-1BB
- DuoHexaBody-CD37
- HexaBody-CD38
- DuoBody-CD3xB7H4

Tisotumab vedotin is being co-developed and co-promoted by Genmab and Seagen; Epcoritamab and DuoHexaBody-CD37 (GEN3009) are being co-developed by Genmab and AbbVie; DuoBody-PD-L1x4-1BB (GEN1046) and DuoBody-CD40x4-1BB (GEN1042) are being co-developed by Genmab and BioNTech; HexaBody-CD38 is being developed in exclusive worldwide license and option agreement with Janssen.

Innovative Clinical Pipeline: Genmab Proprietary* and Partnered Products - Most Advanced Development Phase



*Products where Genmab has ownership of at least 50%
‡See local prescribing information for full indications / safety information
[1]Co-development with AbbVie; [2]Genmab is developing HexaBody-CD38 in an exclusive worldwide license and option agreement with Janssen; [3]Co-development with BioNTech; [4]Co-development with Seagen; [5]Development by Janssen; [6]Development by ADC Therapeutics; [7]Development by Provention Bio; [8]Development by Lundbeck; [9]Development by Global Blood Therapeutics; [10]Development by Novo Nordisk; [11]Development by Novartis; [12]Development by Horizon Therapeutics

Investing in the Breadth & Depth of our Pipeline

R&D Engine

DuoBody technology

HexaBody technology

DuoHexaBody technology

HexElect technology

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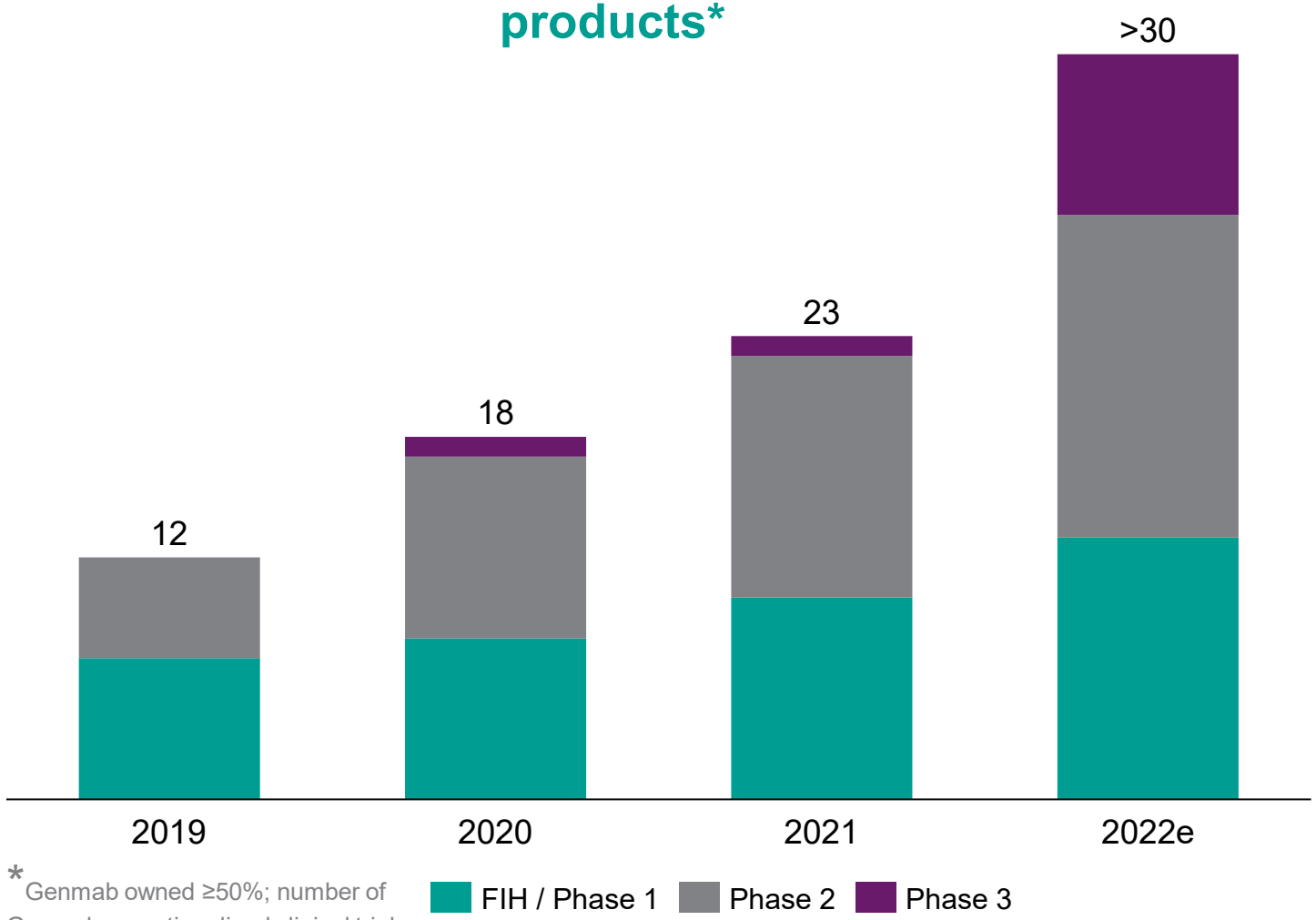
Expanding & maturing trials for our proprietary products*



*Genmab owned ≥50%; number of Genmab operationalized clinical trials and Genmab funded trials operationalized by partners. 2022 is estimated.

First Genmab Approved Therapy: TIVDAK® (tisotumab vedotin-tftv)

in Collaboration with Seagen

- U.S FDA accelerated approval: recurrent or metastatic cervical cancer with disease progression on or after chemotherapy*
- First and only approved ADC for treatment in this patient population
- First Genmab-owned therapy to receive regulatory approval
- Pursuing potential in early lines of Cervical Cancer and in other solid tumors

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*See U.S. prescribing information for full indication and safety information. U.S. FDA accelerated approval; continued approval may be contingent on verification and confirmation of clinical benefit in confirmatory trials.

Epcoritamab (DuoBody-CD3xCD20) in Collaboration with AbbVie

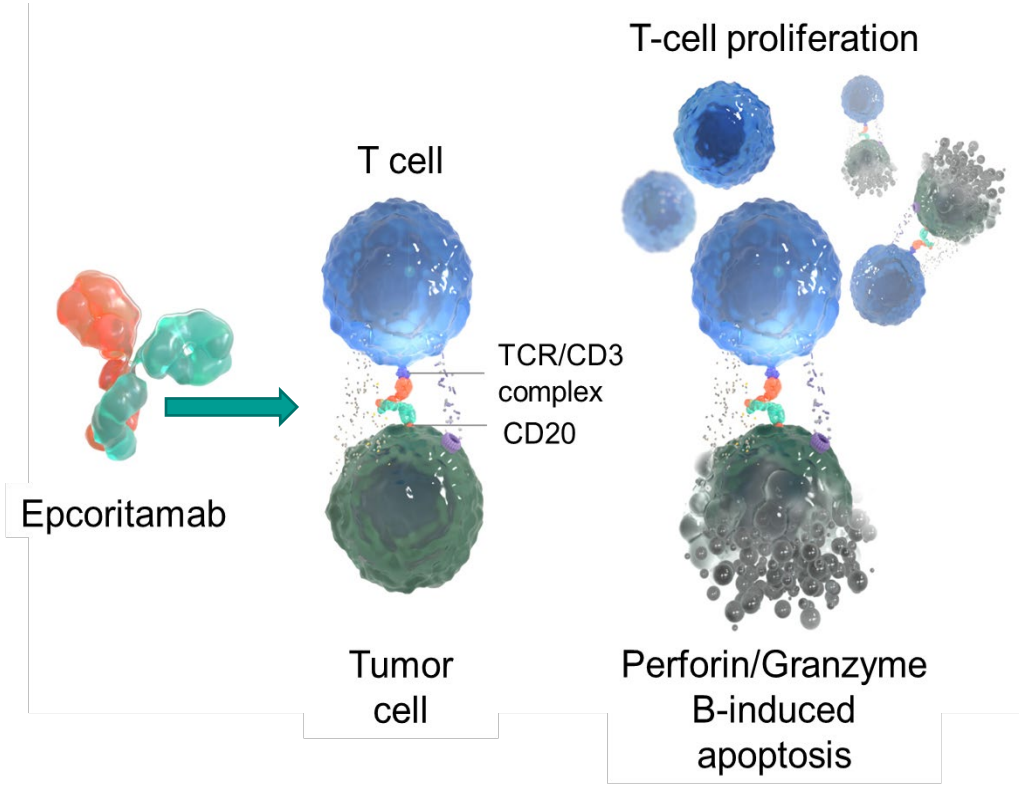
Single-agent epcoritamab demonstrated manageable safety profile, substantial antitumor activity in patients with heavily pretreated B-cell NHL in first-in-human Phase 1/2 trial[1]

New encouraging early data presentenced at ASH 2021

Investigational bispecific antibody delivered as an off the shelf, rapid, subcutaneous injection, studied in B-NHL[2,3]

TCR, T-cell receptor.
1. Hutchings M, et al. *Lancet*. 2021;398:1157-69. 2. Engelberts PJ, et al. *EBioMedicine*. 2020;52:102625. 3. van der Horst HJ, et al. *Blood Cancer J*. 2021;11:38.

Mechanism of Action



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Broad and Comprehensive Epcoritamab Development Plan

B-NHL Type	Intervention	Study Phase
		Preclinical | I | I/II | II | III
DLBCL, FL, MCL and other histologies		
Front-line		
DLBCL	Epcoritamab + R-CHOP	GCT3013-02 (Ph Ib)
FL	Epcoritamab + BR	GCT3013-02 (Ph Ib)
Relapsed or refractory		
B-NHL (DLBCL, FL, MCL)	Epcoritamab monotherapy	GCT3013-01 (Ph I/II)
ASCT eligible DLBCL	Epcoritamab + R-DHAX/C	GCT3013-02 (Ph Ib)
DLBCL	Epcoritamab + GemOx	GCT3013-02 (Ph Ib)
FL	Epcoritamab + R^2	GCT3013-02 (Ph Ib)
B-NHL (Japanese patients)	Epcoritamab monotherapy	GCT3013-04 (Ph I/II)
DLBCL	Epcoritamab vs SOC	GCT3013-05 (Ph III)
CLL		
Relapsed or refractory	Epcoritamab monotherapy	GCT3013-03 (Ph Ib)

B-NHL: B-cell Non-Hodgkin Lymphoma; BR: bendamustine + rituximab; DLBCL: diffuse large B-cell lymphoma; FL: follicular lymphoma; MCL: mantle cell lymphoma; SOC: standard of care; R2 = Revlimid + rituximab

GEN1046 & GEN1042
in Collaboration with BioNTech

DuoBody-PD-L1x4-1BB (GEN1046) – in solid tumors

- First-in-class, bispecific next generation checkpoint immunotherapy
- Designed to elicit anti-tumor immune response by simultaneous and complementary blockade of PD-L1 on tumor cells and conditional 4-1BB stimulation on T cells and NK cells
- Encouraging clinical activity & manageable safety during dose escalation in Phase 1/2a trial in advanced solid tumors[1]
- Phase 2 trial in combination with pembrolizumab in recurrent NSCLC, and several expansion cohorts ongoing in other solid tumors

DuoBody-CD40x4-1BB (GEN1042) – in solid tumors

- First-in-class bispecific next generation immunotherapy
- Designed to conditionally activate both CD40-expressing antigen-presenting cells (APC) and 4-1BB-expressing T cells
- Encouraging clinical activity & manageable safety during dose escalation in Phase 1/2a trial in advanced solid tumors[2]
- Expansion cohorts, including combination therapy with pembrolizumab, currently enrolling

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1. Garralda E, et al. SITC 2020. Poster 412..
2. Johnson M. et al SITC 2021

50:50 Collaboration with BioNTech for both investigational medicines

Earlier Stage Clinical Development

DuoHexaBody-CD37 (GEN3009)

- Combination of DuoBody & HexaBody platforms
- Novel target for hematological malignancies
- Unique MoA
- Dose escalation ongoing
  - Early signs of activity, no safety signals
- Co-development with AbbVie

HexaBody-CD38 (GEN3014)

- Incorporates proprietary HexaBody technology
- Highly promising data in pre-clinical models for MM, DLBCL & AML
- Could potentially add to and broaden DARZALEX franchise
- Dose escalation ongoing
  - Early signs of activity, no safety signals
- Developing in exclusive worldwide license and option agreement with Janssen

DuoBody-CD3xB7H4 (GEN1047)

- Incorporates proprietary DuoBody technology
- In preclinical studies, induced T-cell mediated cytotoxicity of B7H4-positive tumor cells
- Potential in solid cancer indications known to express B7H4
- Latest in the clinic, dose escalation ongoing

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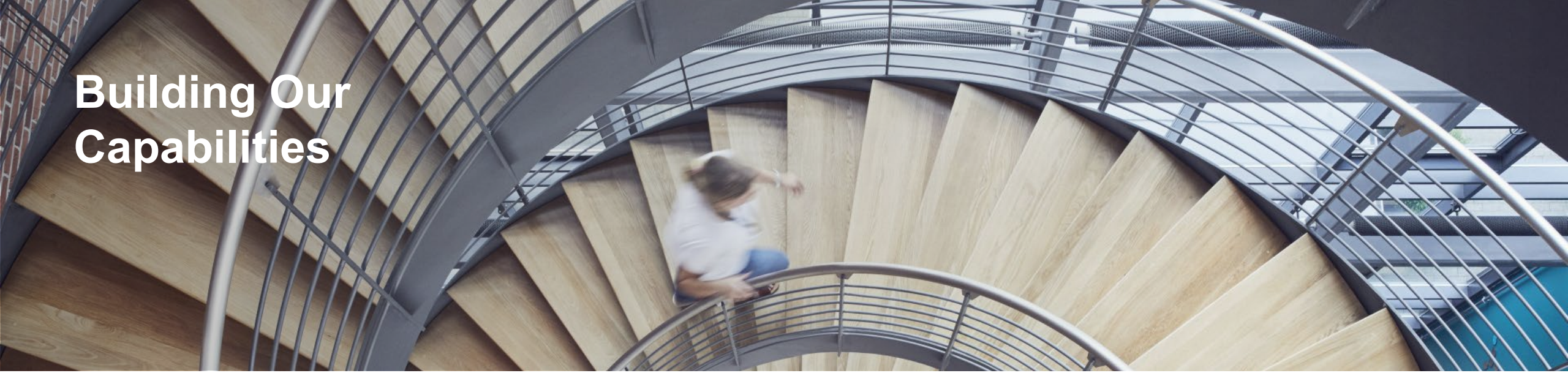

Building Our Capabilities

Research

Track record of success and investing for tomorrow

- State-of-the-art facilities
- Novel technologies and formats
- External innovation

Development

Scaling up to expand from early to late stage

- Clinical development & operations
- Disease area expertise
- Medical Affairs, Translational Research, Safety and Regulatory

Commercialization

Evolving into end-to-end, fully integrated biotech

- Leadership team in place
- Focused on U.S. and Japan
- Building expanded team

Enabling functions to support growth & manage risk | Data Sciences to drive insights

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Approved Antibody Therapeutics Incorporating Genmab's Innovation

Janssen: DARZALEX® (daratumumab) / DARZALEX *FASPRO*® (daratumumab and hyaluronidase-fihj)

Redefining Treatment of Multiple Myeloma (MM)*

- USD 4.4B in net sales first 9M 2021 [up 49% YoY]
- Genmab entitled to tiered royalty [12-20%] of net sales

Novartis: Kesimpta® (ofatumumab)

Approved in U.S., EU & Japan in relapsing multiple sclerosis (RMS)*

- First B-cell therapy that can be self-administered by patients at home using Sensoready® autoinjector
- USD 225M in net sales first 9M 2021
- Genmab entitled to royalty of 10% of net sales

Horizon Therapeutics: TEPEZZA® (teprotumumab-trbw)

Approved in U.S. in thyroid eye disease (TED)*

- ~USD 1.1B in net sales first 9M 2021
- Genmab entitled to mid single digit royalty of net sales

Janssen: RYBREVANT® (amivantamab-vmjw)

Approved in U.S. & EU for patients with locally advanced or metastatic NSCLC with EGFR Exon 20 insertion mutations*

- First regulatory approvals for a product created using Genmab's DuoBody® technology platform
- Genmab entitled to single to double digit royalties of net sales

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*See local prescribing information for full indication and safety information.

2021 Guidance
Recurring Revenue Growth and Focused Investments

Income Statement	DKKM	~USDM*
Revenue	7,900 – 8,500	1,317 – 1,417
Operating Expenses	(5,300) – (5,600)	(884) – (934)
Operating Income	2,300 – 3,200	383 - 533

**2021 guidance assumes a USD/DKK exchange rate of 6.00*

Strong DARZALEX growth: USD 5.9B to USD 6.2B

DARZALEX royalties of ~DKK 5.8B to ~DKK 6.2B to drive significant recurring revenue growth

Operating expenses continue to be driven by expanding and accelerating our clinical pipeline and broadening organizational capabilities

Significant underlying profitability

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Key 2022 Priorities: Expanding and Advancing Differentiated Product Pipeline towards the Market

Priority	✓	Targeted Milestones
Broad and rapid development of late-stage clinical pipeline and further build US country organization		➢ Epcoritamab[1] • Expand clinical development program with multiple Phase 3 trials initiated and submission of first BLA (subject to supportive FDA feedback) ➢ TIVDAK[2] • Establish TIVDAK as a clear choice for 2L+ r/m Cervical Cancer patients • Broaden clinical development program including phase 2 evaluation of combination therapy in earlier line treatment for cervical cancer and other solid tumors
Growth and development of differentiated early-stage product candidates		➢ DuoBody-PD-L1x4-1BB[3] & DuoBody-CD40x4-1BB[3] • Data from clinical expansion cohorts to progress to next steps ➢ Expand and advance proprietary clinical product portfolio
Further scale organization aligned with growing product portfolio and brand needs		➢ Further scale organization aligned with differentiated antibody product portfolio growth and future launches ➢ Use solid financial base to grow and broaden antibody product and technology portfolio

1. Co-development w/ AbbVie; 2. Co-development w/ Seagen; 3. Co-development w/ BioNTech

Well On Track to Reaching Our 2025 Vision

Clear Vision & Focused Strategy

Genmab Today

- ✓ 1 approved medicine
- ✓ 1 potential near-term Genmab product launch
- ✓ Strong rationale to invest
- ✓ Focused and disciplined

Our Future

- ✓ Fully-integrated biotech innovation powerhouse

Genmab