Better Antibodies By Design

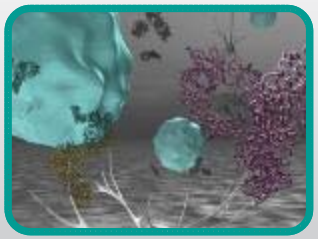
Carnegie Roadshow
September 16, 2014

Genmab

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.

Antibody Innovation Generating World Class Products



Focus on Cancer

- Differentiated human antibodies
- Track record breakthrough therapeutics

Robust Product Pipeline

- Ofatumumab – cancer & autoimmune potential (marketed as Arzerra® in various CLL indications)
- Daratumumab blockbuster potential
- HuMax®-TF-ADC in Phase I solid cancers

Passion for Innovation

- World class antibody know-how
- Proprietary technologies – DuoBody® & HexaBody™
- Innovative pre-clinical pipeline

Partnerships → Product Ownership

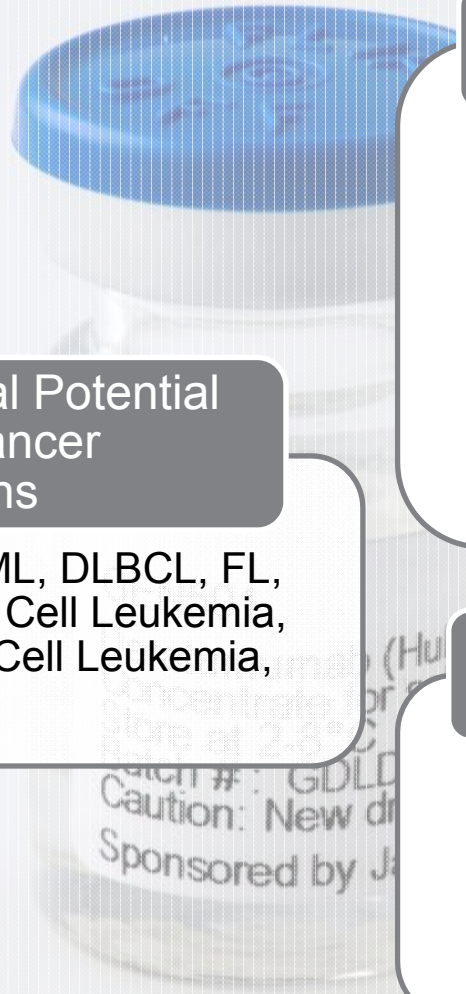
- Key collaborations drive current pipeline
- Product opt-ins + retain products for future value
- Well capitalized

Innovative Pipeline

Product	Disease Indications	Development Phase (Pre-clinical / I / I/II / II / III)
Ofatumumab 18 studies Target: CD20 Partner: GSK	Chronic lymphocytic leukemia (CLL)	
	Follicular lymphoma (FL)	
	Waldenström's macroglobulinemia (WM)	
	Pemphigus vulgaris (PV)	
	Relapsing remitting multiple sclerosis (RRMS)	Announced
	Neuromyelitis optica (NMO)	Announced
Daratumumab 8 studies Target: CD38 Partner: Janssen	Multiple myeloma (MM)	
HuMax-TF-ADC Target: TF Partner: Seattle Genetics	Solid Cancers	
Teprotumumab 2 studies Target: IGF-1R Partner: River Vision	Active thyroid eye disease	
	Diabetic macular edema	
➢ **10 Active Pre-clinical programs incl. HuMax-AXL-ADC**	Partnered programs: HuMab, DuoBody & HexaBody	
	Proprietary programs: HuMab, HuMab-ADC, DuoBody, DuoBody-ADC & HexaBody	

Daratumumab (HuMax®-CD38)

First-in-Class Antibody with Broad-Spectrum Killing Activity



First-in-Class Fully Human Antibody

- Targets CD38 - 5 different ways of attacking cancer cells
- Multiple Myeloma & other blood cancers
- Blockbuster potential
- Promising early clinical MM data
- Broad & expansive development in MM
- Breakthrough Therapy Designation

Additional Potential Blood Cancer Indications

- ALL, AML, DLBCL, FL, Plasma Cell Leukemia, Mantle Cell Leukemia, CLL

Partner: Janssen Biotech

- Janssen funds development & commercialization
- > $1.1B potential deal value, + double-digit royalties
- Zero cost / limited financial risk for Genmab

Expansive Daratumumab Development

9 Ongoing or Announced Studies in Multiple Myeloma

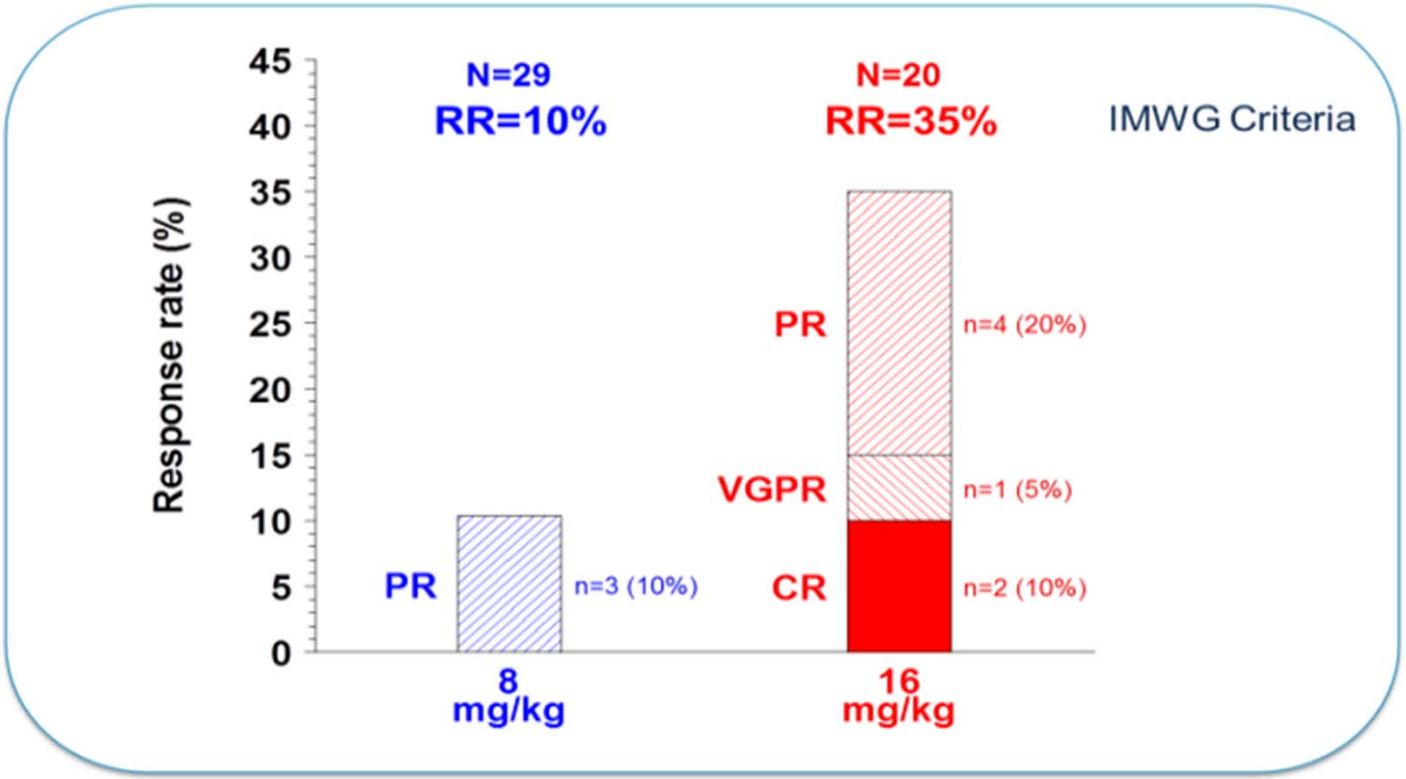
Indication	Disease Stage	Therapy	Development Phase (Pre-clinical / I / I/II / II / III / IV)
Multiple Myeloma	Front line (transplant & non-transplant)	Dara + VMP*	
		Dara + Revlimid + Dex*	
		Multi combo 1 Study	
	Relapsed or Refractory	Dara + Revlimid + Dex 2 Studies	
		Dara + Velcade + Dex 1 Study	
		Mono, Japan	
		Mono, safety	
	Double Refractory	Mono, BTD population	
	Smoldering		In planning
	Maintenance		Integrated into some study protocols
Non-MM	Various	Potential in: ALL, AML, DLBCL, FL, Plasma Cell Leukemia, Mantle Cell Leukemia, CLL	

*Phase III studies announced but not yet started.

Daratumumab: Early Signs of Clinical Activity

Phase I/II Monotherapy Study

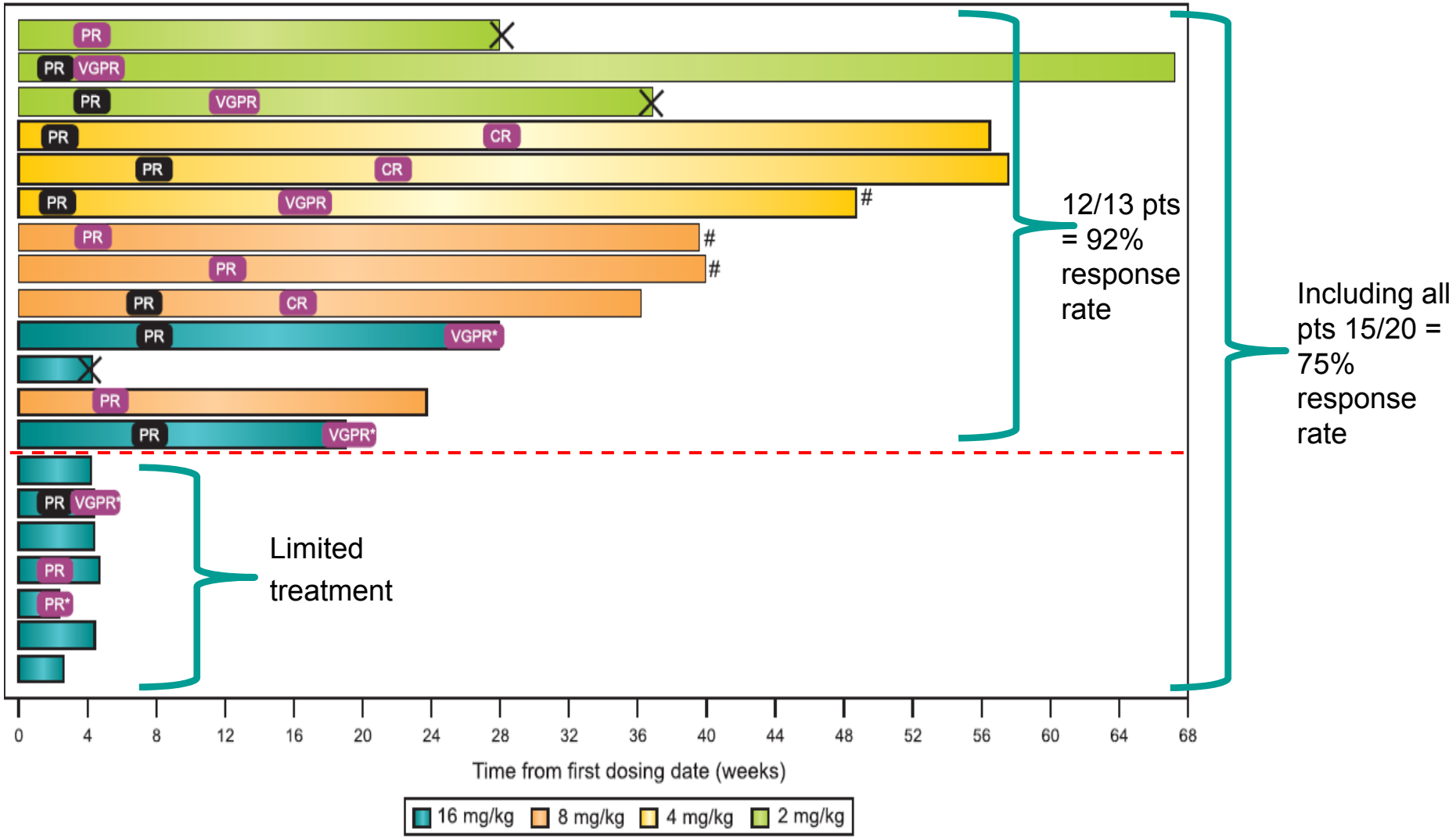
- Relapsed and refractory multiple myeloma, ASCO 2014
- Safety & efficacy in 49 patients
- 35% response rate at 16 mg/kg
- Treatment well tolerated



Data presented at ASCO 2014

Daratumumab: Early Signs of Clinical Activity

Ph I/II Revlimid Combo Study in Multiple Myeloma



Data presented ASCO 2014 Ph I/II relapsed / refractory

Arzerra® (ofatumumab)

Our First Marketed Product

- Fully human antibody targeting CD20 on cancerous B-cells
- Differentiated vs other CD20 mAb, targets slice of > $7B market

Cancer

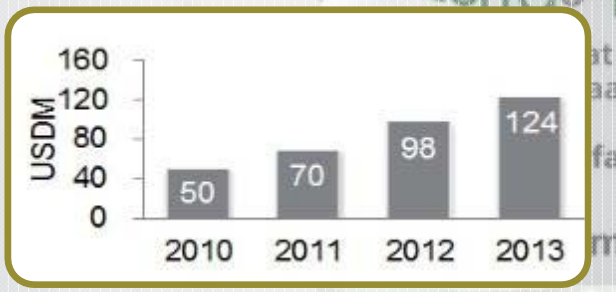
- Approved*
  - US 1st Line CLL in combo w/ chlorambucil
  - EU 1st Line CLL in combo w/ chlorambucil or bendamustine
  - Fludarabine and alemtuzumab refractory CLL
- 7** Phase III trials in CLL & FL
- Novartis potential partner 2015 (subject to GSK / Novartis deal close)

Autoimmune diseases (unapproved)

- Phase III trial ongoing in PV
- Relapsing remitting MS Ph IIIs & pivotal NMO trial announced
- Partnered with GSK

Sales Growth by GSK

- 2013 sales GBP 74.9M (~$124M); royalty DKK 131M
- Genmab Cancer Royalty = 20%



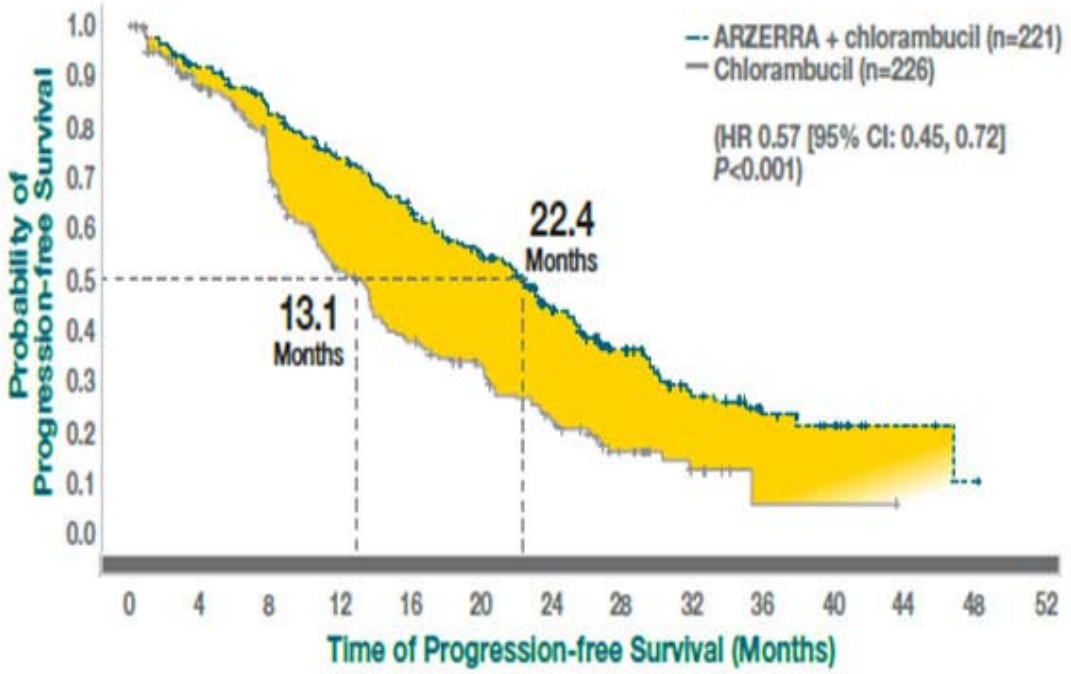
*In US approved in combination with chlorambucil for the treatment of previously untreated patients with CLL for whom fludarabine-based therapy is considered inappropriate as well as for the treatment of patients with CLL refractory to fludarabine and alemtuzumab.

In EU approved in combination with chlorambucil or bendamustine for the treatment of patients with CLL who have not received prior therapy and who are not eligible for fludarabine-based therapy, as well as for the treatment of patients with CLL refractory to fludarabine and alemtuzumab.

**Source: clinicaltrials.gov

Arzerra Label Expansion: Phase III Data Ofatumumab + Chlorambucil Extends Progression Free Survival

- Ofa + chlorambucil vs. chlorambucil in front line CLL
- 71% improvement in PFS
- No unexpected safety findings - Most common SAEs:
  - Neutropenia (5%), anemia (4%), pneumonia (4%) and pyrexia (2%)



Number at risk													
ARZERRA plus Chlorambucil	221	192	169	148	125	104	70	46	28	15	9	3	1
Chlorambucil	226	173	130	92	67	52	33	17	6	1	1		

HR=hazard ratio; CI=confidence interval.

Ofatumumab: Planned & Ongoing Trials

Cancer (IV)
Pivotal Study Readouts

2014	**Relapsed CLL*** O maintenance vs observation ✓
2015	**Relapsed CLL** OFC vs FC
2016	**Refractory FL** O+B vs B
2017	**Relapsed FL** O mono vs R mono

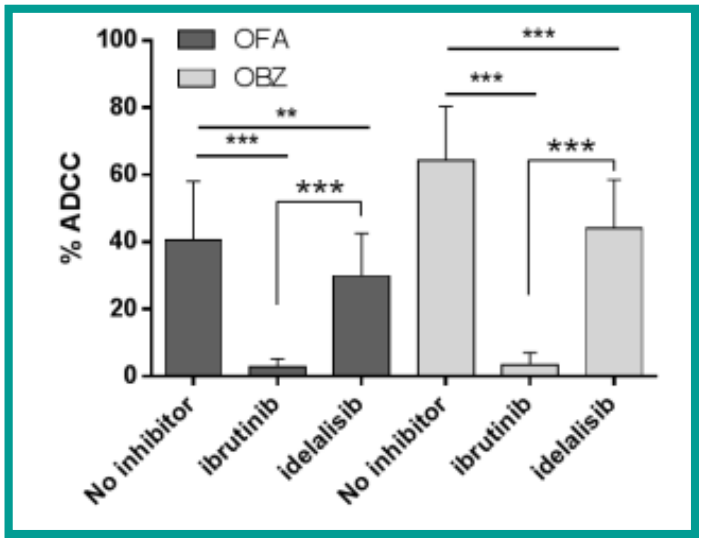
Autoimmune (SC)
Ongoing & Planned

Ongoing	**RRMS** Ph II monotherapy
Ongoing	**PV** Ph III efficacy & safety
Planned	**RRMS** multiple Ph III's
Planned	**NMO** pivotal study

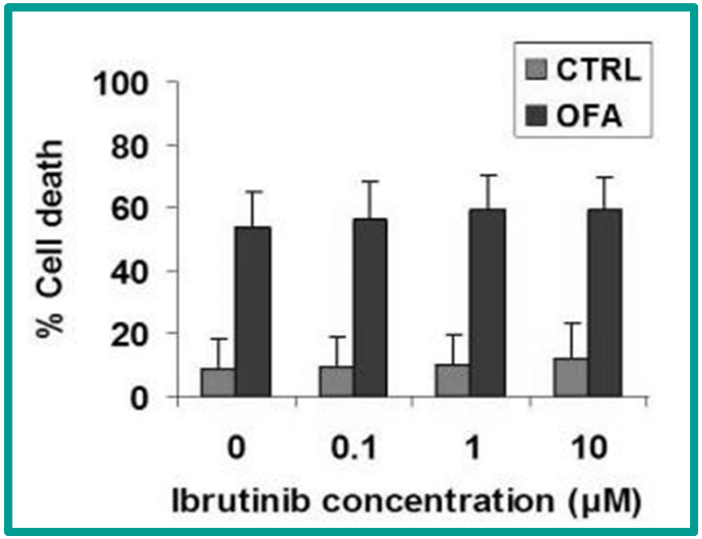
Note: The indications above are unapproved
*Interim data reported

Ofatumumab:
Potential to Combine with Tyrosine Kinase Inhibitors

ADCC



CDC



TKIs knock out immune effector cells (NK cells, macrophages) so ADCC ineffective

Ofatumumab most active CDC killing compared to other CD20 mAb

Ibrutinib - ofatumumab combination highly active in CLL, ISS study at ASCO 2014

Sources:

Da Roit et al. “Ibrutinib interferes with the cell-mediated anti-tumor activities of therapeutic CD20 antibodies: implications for combination therapy.” Abstract. EHA 2014

Jaglowski et al. “A Phase Ib/II study evaluating activity and tolerability of the BTK inhibitor ibrutinib in combination with ofatumumab in patients with chronic lymphocytic leukemia / small lymphocytic lymphoma (CLL/SLL) and related diseases.” ASCO 2014

Ofatumumab - Future in Autoimmune

Multiple Ph III Trials to Start in Autoimmune Indications

Relapsing Remitting Multiple Sclerosis (RRMS)

- Phase III's in RRMS expected to begin in 2015
  - Follow encouraging Phase II data
    - Sustained reduction cumulative number new brain lesions over 12 week period
    - No unexpected safety findings
- MS market forecast to peak at $18.5B in 2018*

Neuromyelitis Optica (NMO)

- GSK plans IND for potential pivotal study in NMO in 2014
  - NMO, a rare autoimmune disorder
  - No licensed therapy for NMO
  - Orphan indication

Pemphigus Vulgaris (PV)

- Phase III study ongoing
- Orphan indication

*Source: Datamonitor "Multiple Sclerosis Forecast" 2014. Incl. US, Japan & 5 major EU

HuMax®-TF-ADC: In the Clinic

Next Generation Therapeutics

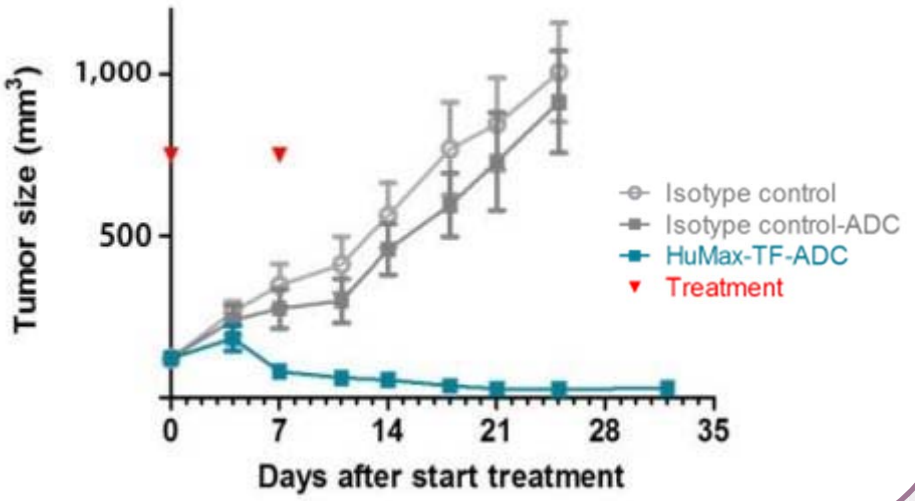
8 Tumors

- Ovary, cervix, endometrium, bladder, prostate, head & neck, esophagus, lung
- Potential also in pancreatic cancer

Fully Human Antibody-drug Conjugate

- Targets Tissue Factor (TF)
- Strong pre-clinical data in multiple solid cancers
- Ongoing Phase I study
- Collaboration: Seattle Genetics opt-in (after Ph I/II)

Pre-clinical Cervical Cancer Model

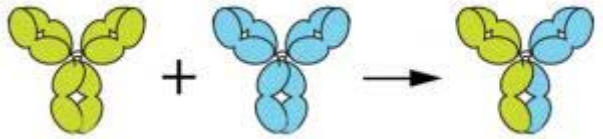


DuoBody® Technology

Efficient & Versatile Platform for Bispecific Antibodies

DuoBody

- Dual-targeting, potential to improve specificity & efficacy
- Large scale manufacturing
  - Minimal protein engineering
  - Excellent quality BsAb at very high yields
- Differentiated from competitor platforms
  - Proper in vivo half-life
  - Fc-effector functions
- Good manufacturability



Ongoing Collaborations

- 2 Commercial deals
  - Novartis (2 programs, $175M potential deal value + royalties)
  - Janssen Biotech (20 programs, $3.6B potential deal value + royalties)
- 6 Research deals
  - Lilly, Kirin, Cormorant, undisclosed major Biotech, Agenus, BioNovion

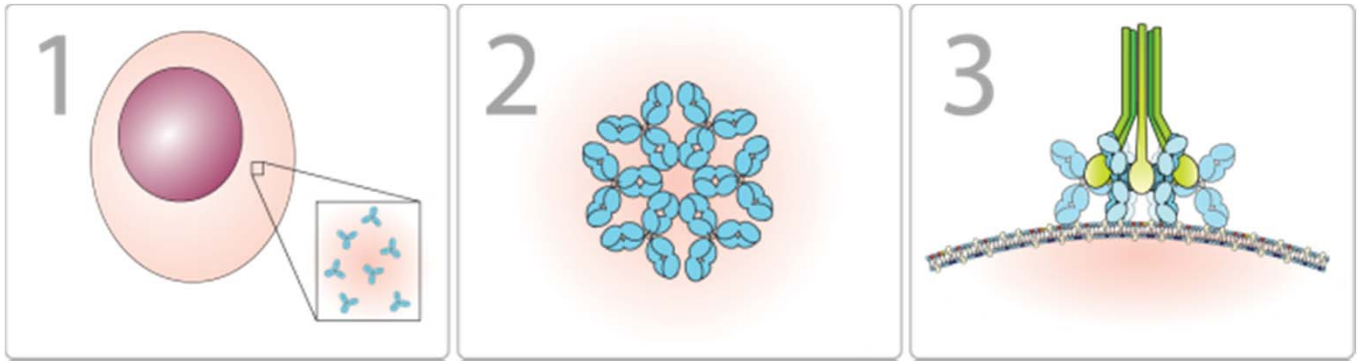
HexaBody™ Technology

Robust Effector Function Enhanced Antibodies

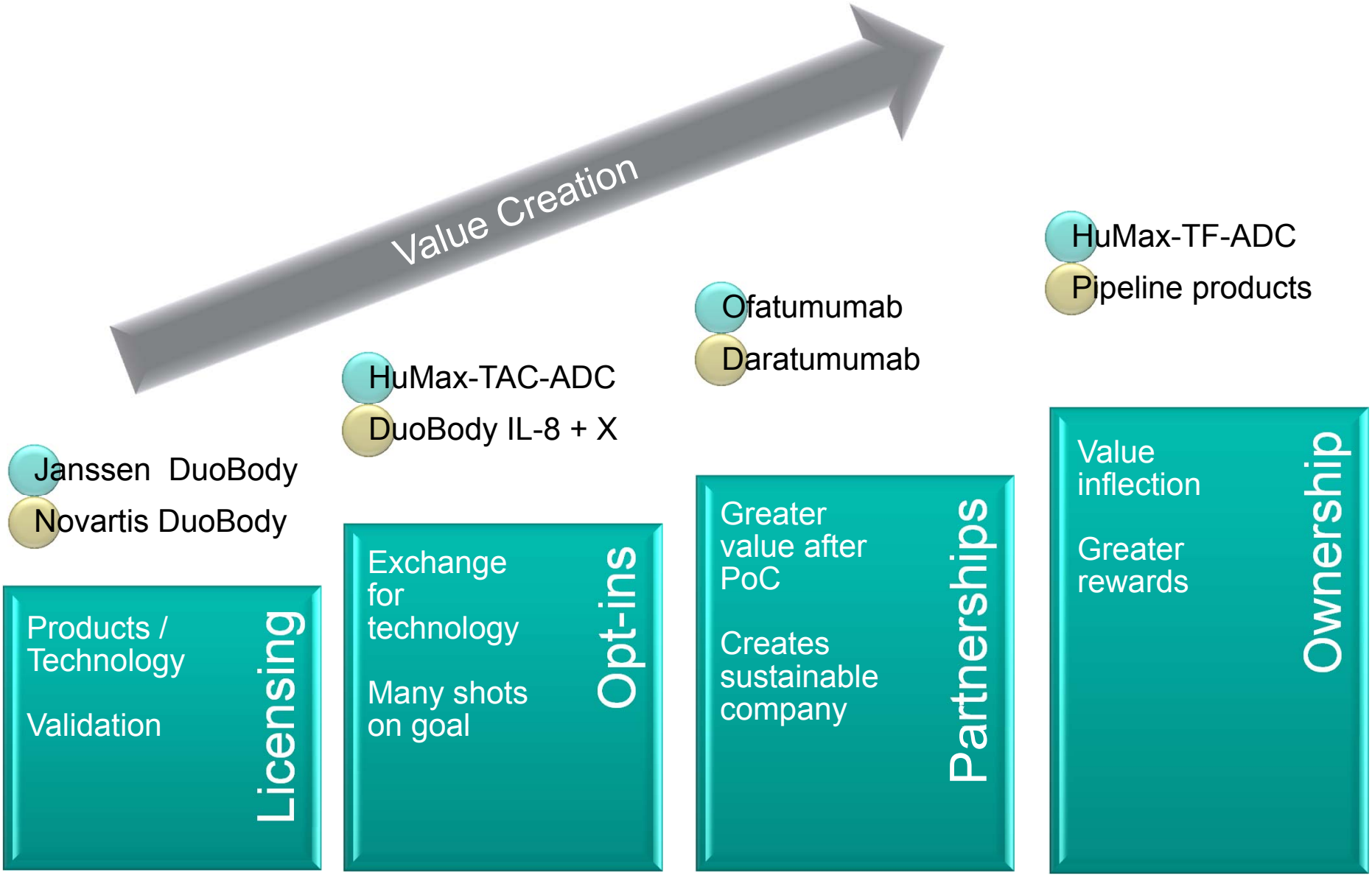
HexaBody

HexaBody

- Enables antibodies to more readily form clusters of 6 (hexamers)
- Induces & enhances target cell killing after binding via CDC
- CDC capability to essentially any antibody
- Builds on natural antibody biology - minimal engineering
- Create novel, differentiated products in cancer & infectious disease
- Repurpose / rescue drug candidates that failed in Phase II/III
- Life cycle management
- First collaboration with undiscl. major Biotech, June 2014



Creating Value With Our Technologies

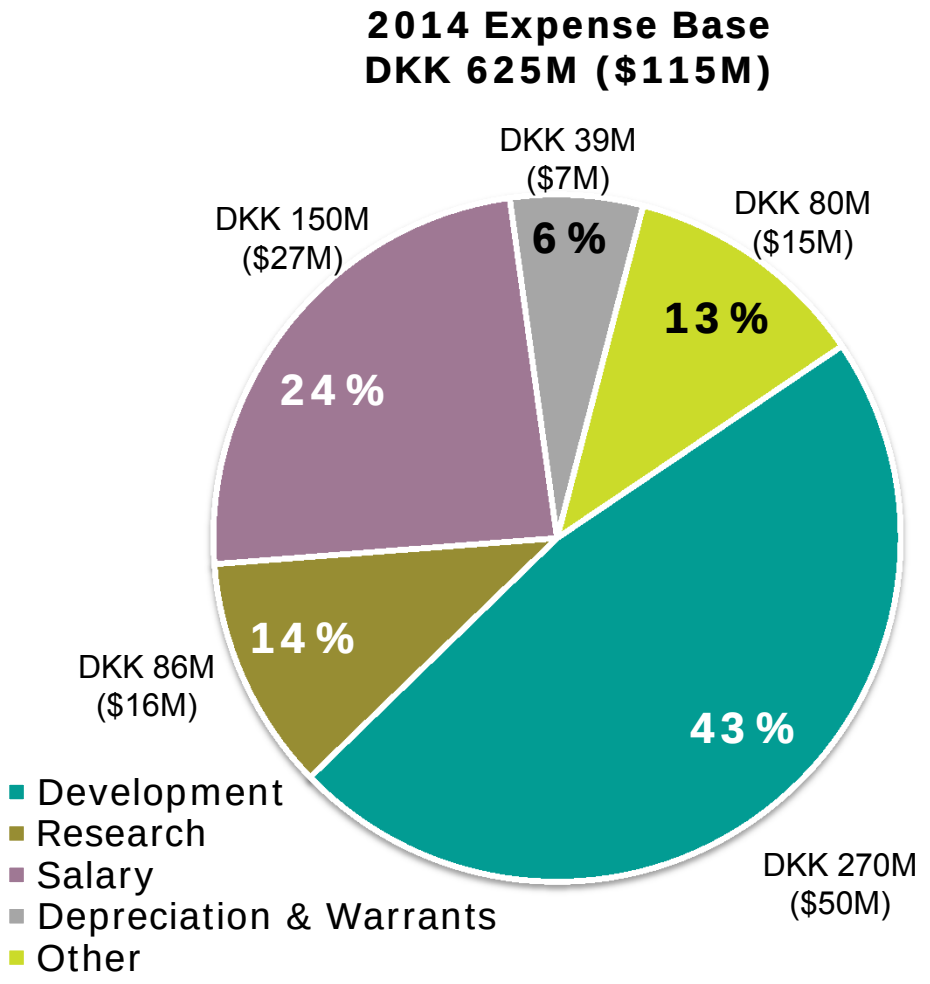


Well-Capitalized Biotech – 2014 Guidance

Income Statement	DKKM	USDM*
Revenue	800 - 875	147 - 160
Operating expenses	(600) – (650)	(110) – (119)
Operating income	175 – 250	32 - 46

Cash Position	DKKM	USDM*
Cash position beginning of year**	1,557	285
Cash used in operations	0 – (50)	0 - (9)
Proceeds from private placement	972	178
Warrant exercises	33	6
Cash position at end of year**	2,450 – 2,550	449 - 467

**USD 1.00 = DKK 5.4589*
***Cash, cash equivalents and marketable securities*



2014 Goals: Fueling Growth Through Our Platforms & Products

Priority	✓	Targeted Milestone
Maximize value of ofatumumab	2015 ✓ X X ✓	» Ph III relapsed CLL ofa + FC data » Ph III maintenance CLL data » Ph III bulky refractory CLL ofa vs physician's choice data » Ph III relapsed DLBCL; ofa + chemo vs RTX + chemo data » Update progress sc autoimmune development
Expansion Arzerra	✓ ✓	» CLL front line label expansion and launch » Launch & reimbursement in new countries
Fully exploit the potential of daratumumab	✓ ✓ ✓ ✓	» Ph I/II MM monotherapy matured efficacy data » Ph I/II MM dara + Revlimid safety & efficacy data » Ph II MM monotherapy preliminary data » Ph Ib MM multi combo data » Start multiple new MM trials » Progress non-MM indications
Expand pipeline		» Progress Ph I HuMax-TF-ADC study » Report progress pre-clin. ADC, DuoBody & HexaBody projects
Next generation technologies	✓ ✓ ✓	» Enter new DuoBody technology collaborations » Report progress DuoBody collaborations » Start HexaBody technology collaborations
Partnerships	 ✓	» Report progress partnered programs » Enter new collaboration
Disciplined financial management	✓	» Significant daratumumab milestones » No significant increase in cost base » Increase operating income and reduce cash burn

On Track to a Sustainably Profitable Future

- Robust differentiated product pipeline
  - Daratumumab, ofatumumab, HuMax-TF-ADC
  - Innovative pre-clinical pipeline
- Proprietary technologies -DuoBody & HexaBody
- Partnerships → Product ownership
  - Well capitalized
- Positioned for success
  - For patients & shareholders

Better Antibodies By Design

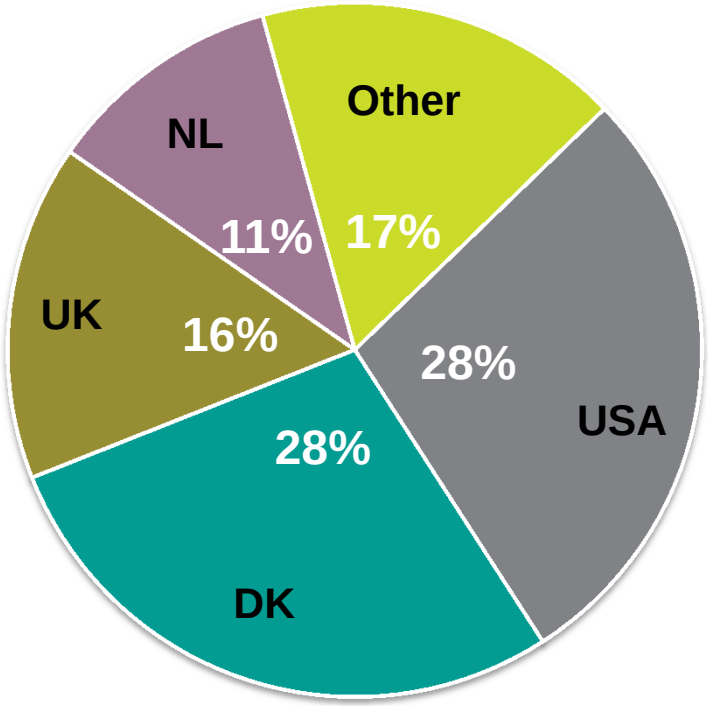
Appendix

Genmab

International Shareholder Base

- Major shareholders >5%
  - Johnson & Johnson Development Corporation
  - Glaxo Group Ltd.
  - FMR (Fidelity)
  - ATP
- ADR program in USA
  - Ticker: GMXAY
  - Sponsored level 1
  - Ratio: 2 ADR: 1 ordinary share
  - Depositary Deutsche Bank
- Shares outstanding: 56,687,266
  - Total diluted shares: 62,054,820

Geographical Shareholder Distribution January 31, 2014*



*Based on internal shareholder registry

Market Sizes

Estimated Prevalence in 7 Major Markets

Disease	Estimated Incidence in 7 Major Markets[1]	Estimated Prevalence	Estimated Global Branded Sales by 2018
CLL	32,000	250,000	$5.3B
FL	32,000	260,000	$10.5B[2]
MM	55,000	190,000	$11.5B
RRMS	26,100[3]	370,600	$18.5B[3]

[1]Incidence for MS does not include Japan

[2]Sales data is for NHL, which includes FL

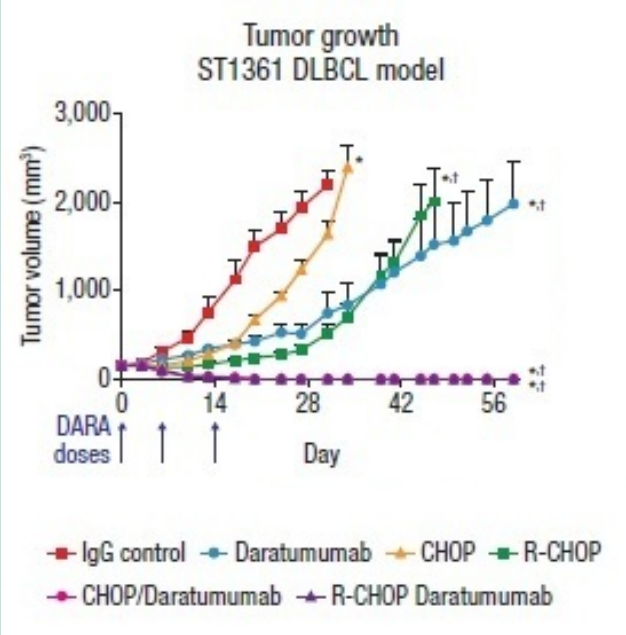
[3]Data is for MS, which includes RRMS

Sources: CLL, DLBCL, FL 2013 forecast incidence: Datamonitor, "Pipeline Insight: Leukemias" and "Pipeline Insight: Lymphomas, Multiple Myeloma & Myelodysplastic Syndromes", March 2010.
CLL, DLBCL, FL prevalence based on median survival of 8 yrs: company estimates.
MM 2012 incidence: Datamonitor, "Multiple Myeloma Epidemiology", May 2013; MM prevalence: SEER 2012; company estimates.
MS incidence, "Atlas of MS 2013"
RRMS prevalence, Datamonitor, "Multiple sclerosis Epidemiology", May 2012.
Sales data for CLL, FL, MM based on EvaluatePharma® 2014, sales data for MS from Datamonitor, "Multiple Sclerosis Forecast", 3 February 2014.

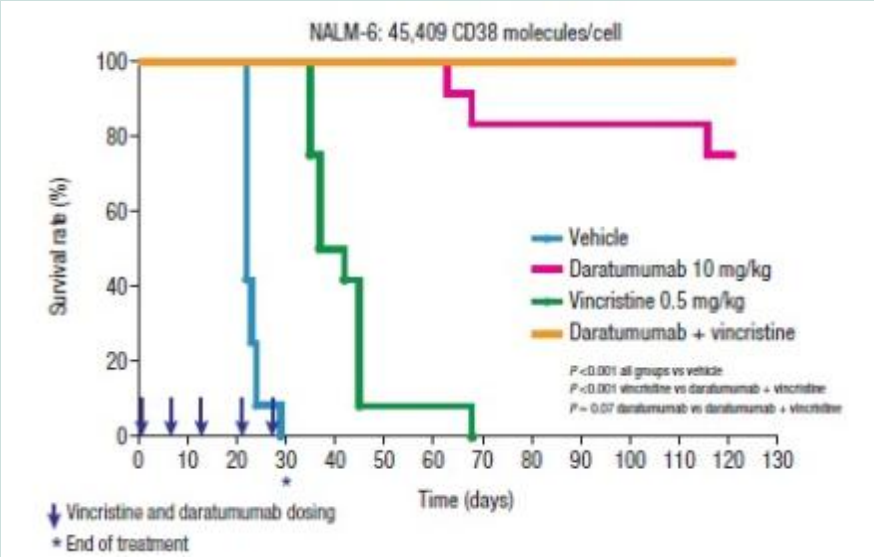
Daratumumab Beyond Multiple Myeloma

Pre-clinical Activity in DLBCL & ALL (EHA 2014)

Effect daratumumab on tumor growth in patient-derived DLBCL model

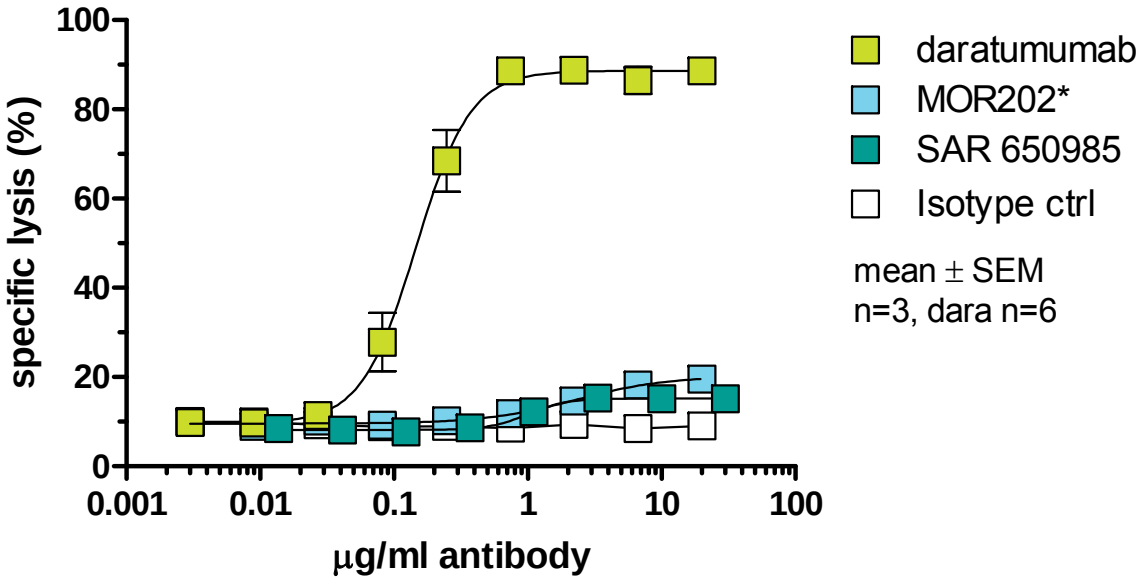


Effect daratumumab with or without vincristine in ALL xenograft model



Data presented at EHA 2014

Daratumumab Induces Superior CDC



	Daratumumab (Genmab)	MOR202* [1] (MorphoSys)	SAR 650984 [1, 2] (Sanofi-Aventis)
EC50 (μg/mL)	0.15	2.3	1.0
Maximum killing (%)	90	20	15

*MOR202 clone MOR03087; [1]:surrogate mAb produced in HEK cells, generated using VH and VL sequences as published PCT patent applications WO2012/041800 (MOR03087) and WO2008/047242 (38SB19); [2]:38SB19

CD38 Landscape

In-house Comparison with Surrogates of MOR202 and SAR 650984

		Daratumumab (Genmab)	MOR202 [1] (MorphoSys)	SAR 650984 [1, 2] (Sanofi-Aventis)
	Origin	Human	Human	Humanized
	Development phase	Phase III	Phase I/IIa	Phase I/II
	Binding [3]	+++	++	+++
Mechanism of Action	ADCC (max lysis) [3]	++	++	++
	CDC (max lysis) [3]	+++	+	+
	Phagocytosis [3, 4]	+++	++	nd
	Ecto-enzyme function	+	nd	++
	Direct PCD [5, 6]	-	-	++
	PCD after cross-linking [5, 6]	+++	+++	+++

*MOR202 clone MOR03087; [1]:surrogate mAb produced in HEK cells, generated using VH and VL sequences as published in PCT patent applications WO2012/041800 (MOR03087) and WO2008/047242 (38SB19); [2]:38SB19; [3]:Daudi cells; [4]:based on EC50 data, [5]:Ramos cells [6]: PCD: Programmed cell death, measured by Annexin V positivity and Caspase-3 activation. nd = not determined

Data presented at European Antibody Congress 2013, Nov. 2013 & 1st Annual Summit on Practical and Emerging Trends in Multiple Myeloma, March 2014

Immuno-Oncology

Turning Cancer into a Chronic Condition

Hottest Area in Oncology

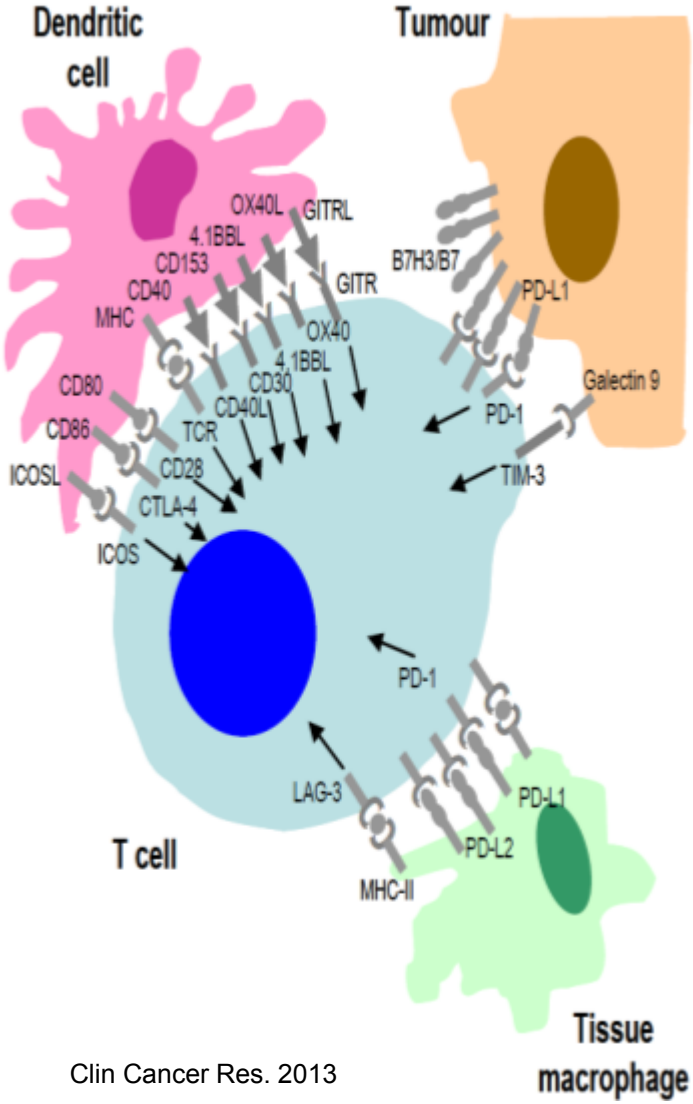
- Long duration of response
- Potential game changer
  - $35B market

Many Immune Check Point Targets

- Combinations may improve survival outcome

DuoBody

- Robust & versatile BsAb platform
- Ideal for:
  - Screening multiple combinations in final therapeutic format
  - Combined targeting immune check points



Clin Cancer Res. 2013

Positive Phase II Ofatumumab + Bendamustine Data in CLL

- 97 CLL patients in study
- Previously untreated CLL
  - 44 patients
  - 95% Overall response rate
  - 43% Complete response rate
    - 56% of these achieved MRD negativity in bone marrow or blood
- Relapsed CLL*
  - 53 patients
  - 74% ORR
  - 11% CR
- Treatment was well tolerated**

*Unapproved indication

**The most common adverse reactions (>20% of patients) were neutropenia, nausea, rash, pyrexia and thrombocytopenia.

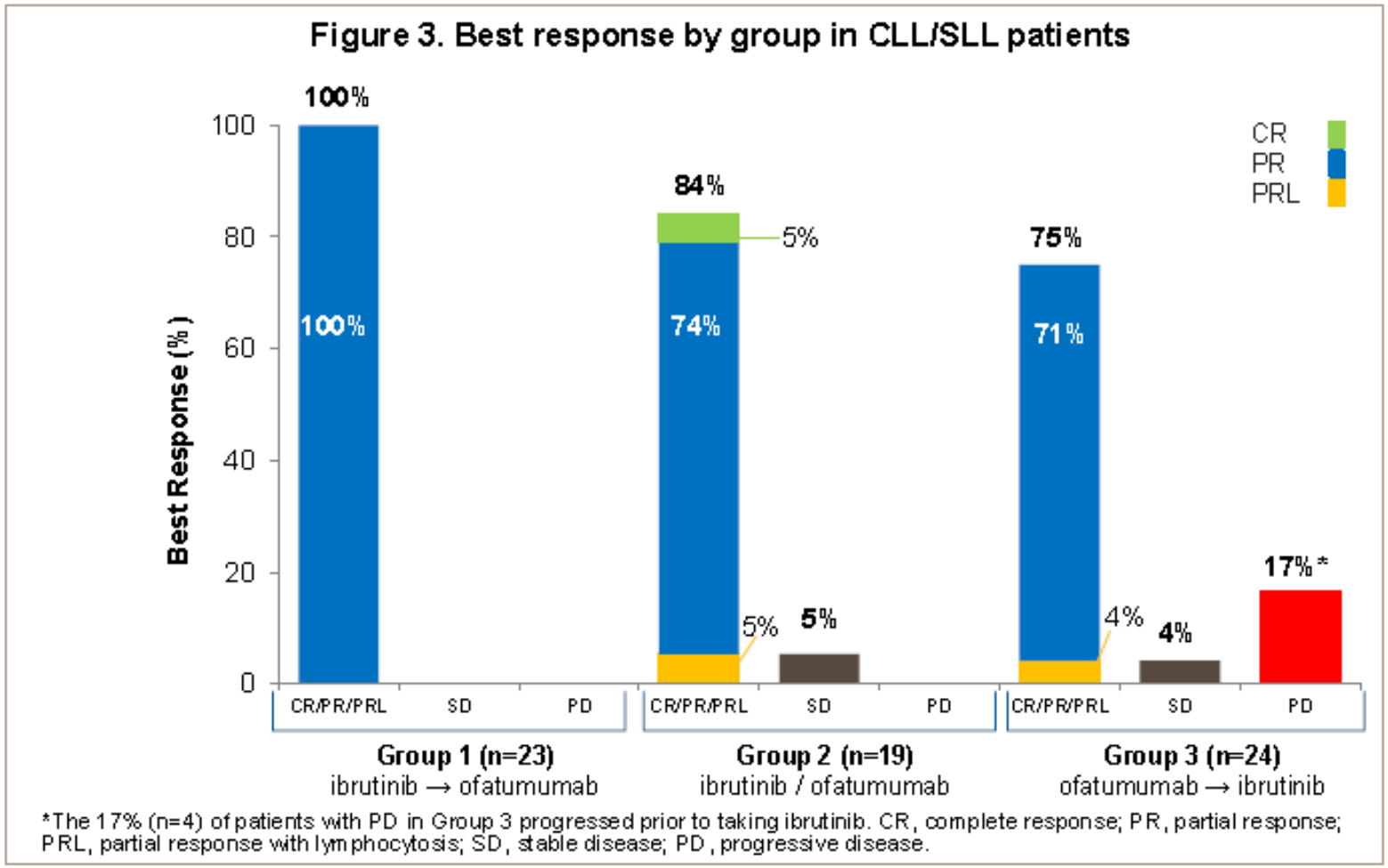
Recent Ofatumumab News

Phase III DLBCL H2H study & bulky fludarabine-refract. CLL study miss primary endpoint

- **DLBCL: ORCHARRD study**
  - 447 patients, 2 treatment arms: ofa + chemo vs. rtx + chemo
  - No statistically significant difference in PFS between treatment arms
  - Regulatory filing unlikely

- **Bulky fludarabine-refract. CLL study**
  - 122 patients, randomized 2:1 Ofa vs physicians choice
  - Median PFS assessed by IRC 5.36 months vs 3.61 months (p=0.267)
  - Ofa performed broadly in line with previous data
  - Post marketing obligation EU

Ibrutinib -Ofatumumab Combination Highly Active
Dosing Sequence Optimization Required



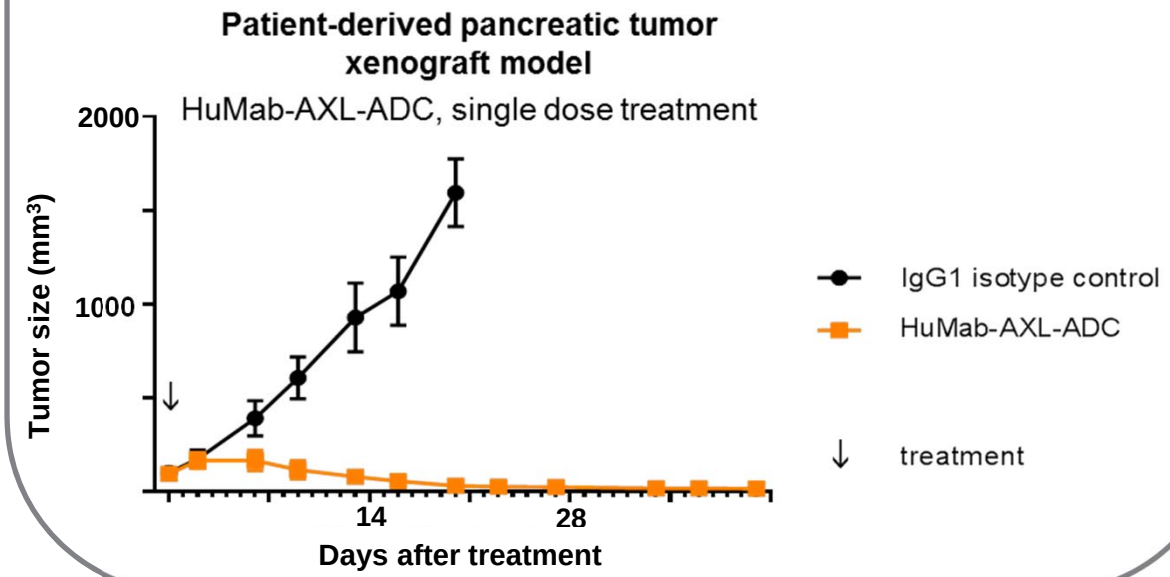
- ORR of 100% - 75%
- PFS of 85% - 90% at 12 months in distinct dosing sequence regimens

Jagolowski et al, ASCO 2014

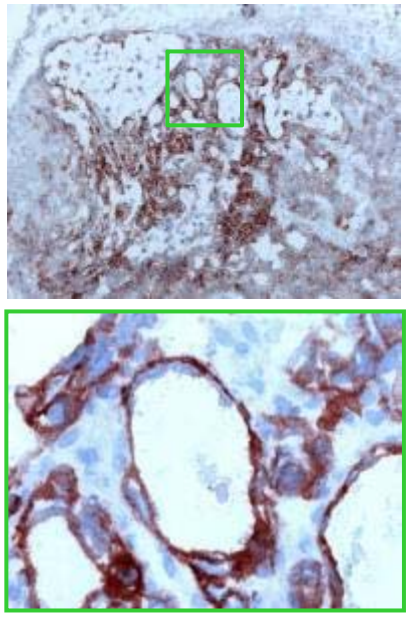
HuMax-AXL-ADC Efficacy in *in vivo* Tumor Model

Fully Human Antibody-Drug Conjugate

- Targets AXL signaling molecule expressed on many solid cancers
- HuMax-AXL-ADC shows anti-tumor activity in patient-derived xenograft model with heterogeneous target expression
- Collaboration: Seattle Genetics



AXL expression in xenograft model



AXL antibody

Better Antibodies By Design

Genmab