Better Antibodies By Design

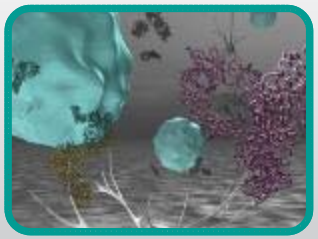
33rd Annual J.P. Morgan Healthcare Conference
January 15, 2015

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

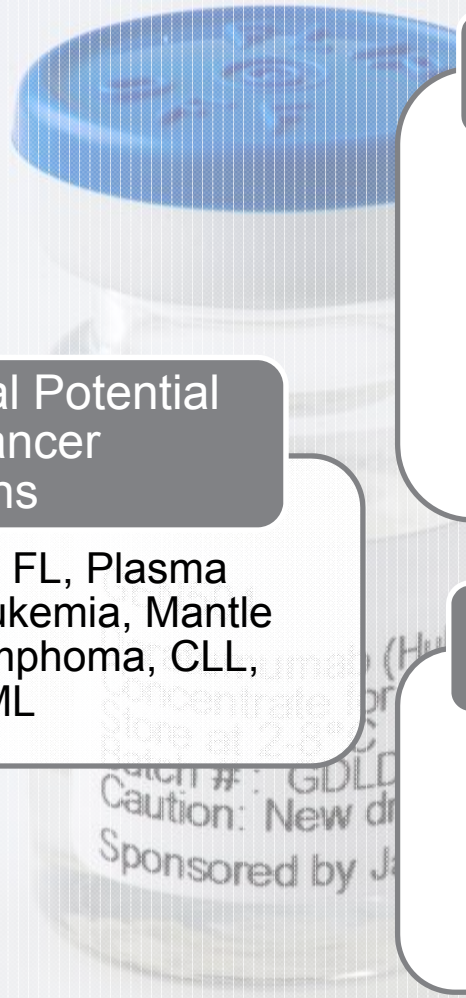
- Key collaborations drive current pipeline
- Product opt-ins + retain products for future value
- Well capitalized

Innovative Pipeline

Product	Disease Indications	Development Phase (Pre-clinical / I / I/II / II / III)
Ofatumumab 17 studies Target: CD20 Partner: GSK* *Novartis to develop cancer indications subject to asset swap approval	Chronic lymphocytic leukemia (CLL)	
	Follicular lymphoma (FL)	
	Pemphigus vulgaris (PV)	
	Relapsing remitting multiple sclerosis (RRMS)	Announced
	Neuromyelitis optica (NMO)	Announced
Daratumumab 12 studies Target: CD38 Partner: Janssen	Multiple myeloma (MM)	
	Non-Hodgkin's Lymphoma (NHL)	
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	
➢ **20 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 - five 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

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

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

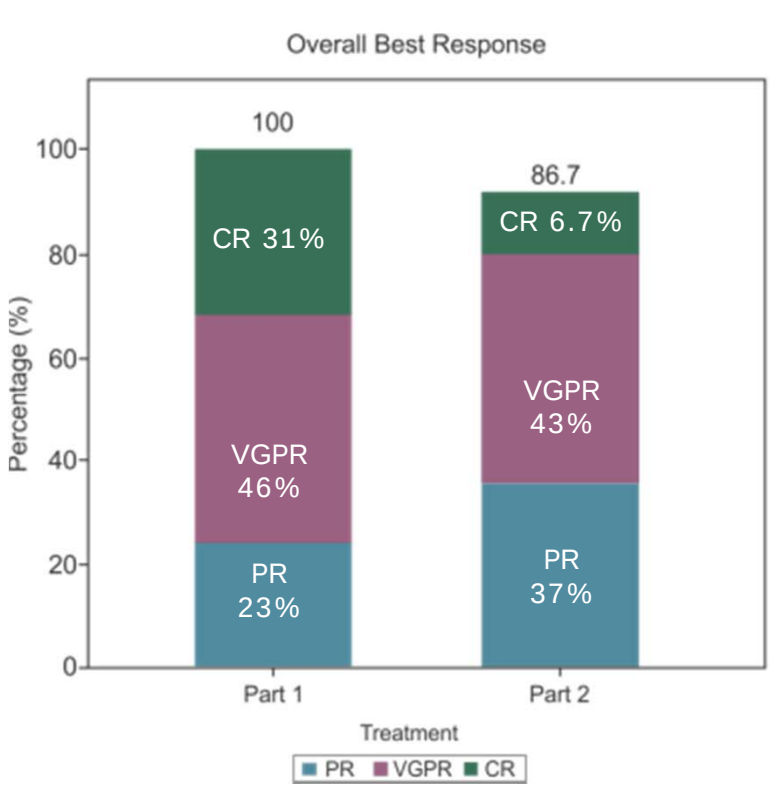
12 Ongoing or Announced Studies

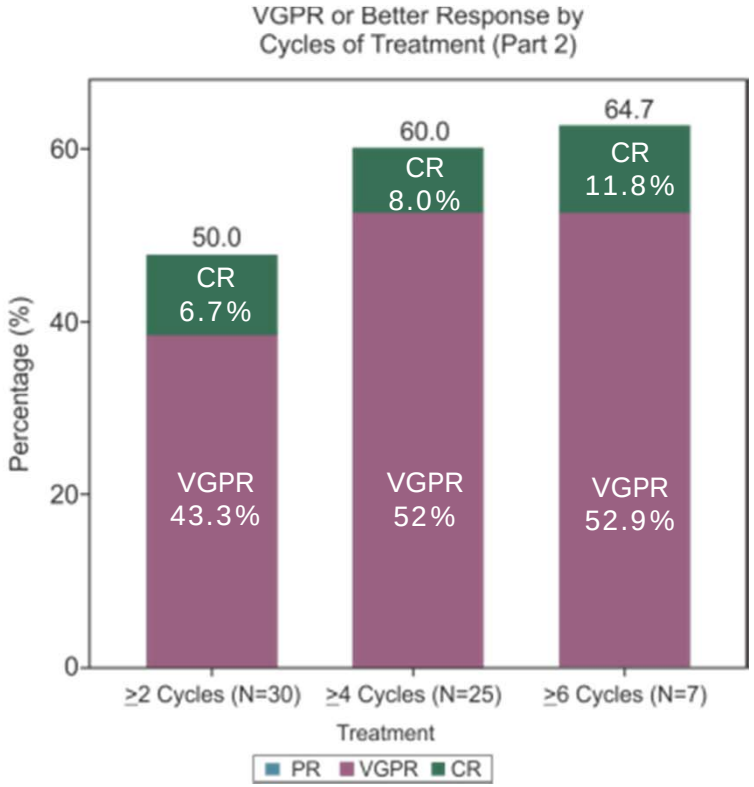
Indication	Disease Stage	Therapy	Development Phase (Pre-clinical / I / I/II / II / III / IV)
Multiple Myeloma**	Smoldering	Mono	
	Front line (transplant & non-transplant)	Dara + VMP	
		Dara + Revlimid + Dex*	
		Dara + VTD*	
		Multi combo: 1 Study	
	Relapsed or Refractory	Dara + Revlimid + Dex	
		Dara + Revlimid + Dex	
		Dara + Velcade + Dex	
		Mono, Japan	
		Mono, safety	
	Double Refractory	Mono, BTD population	
NHL	Relapsed or Refractory	Mono	
Non-MM	Various	Potential in: FL, DLBCL, Mantle Cell Lymphoma, ALL, AML, CLL	

*Phase III study announced, not yet started. **Maintenance integrated into some study protocols

Daratumumab: Early Signs of Clinical Activity

Ph I/II Revlimid Combo Study in Multiple Myeloma



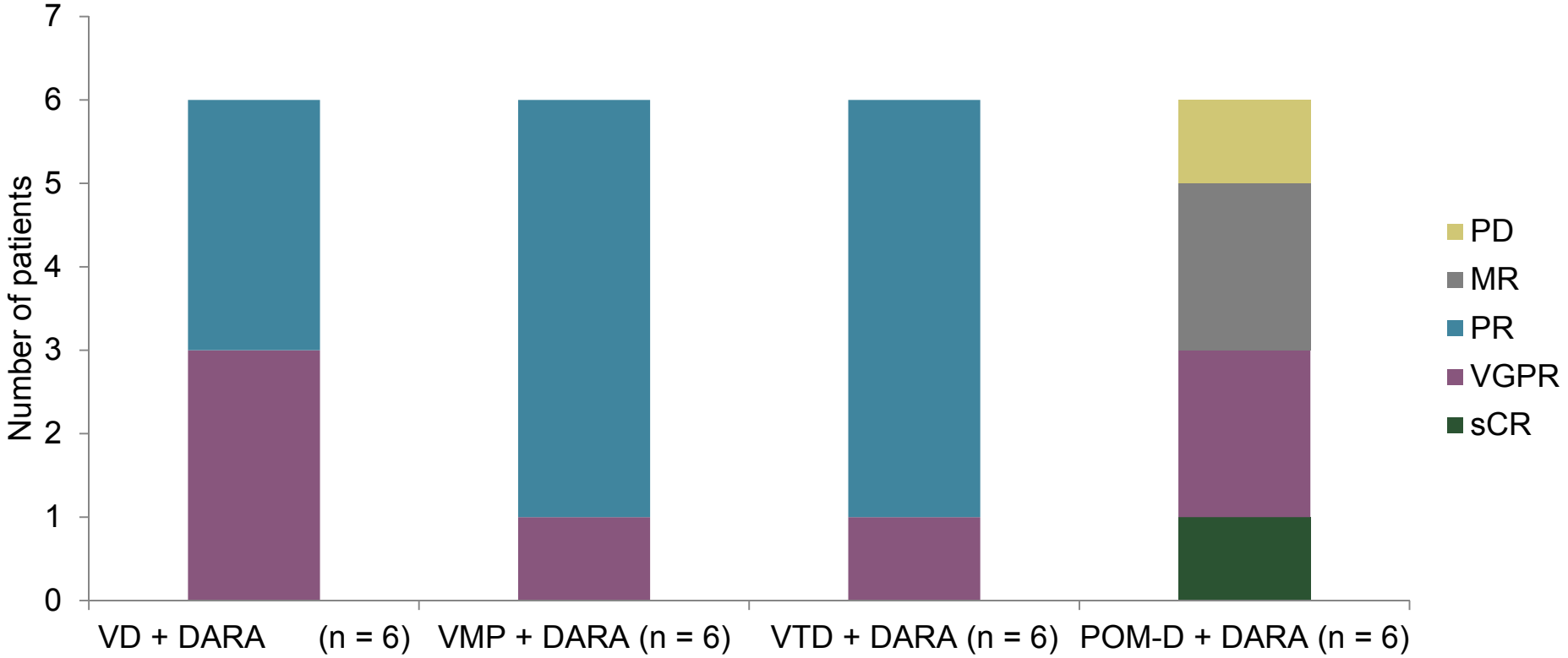


- Part 1; ORR 100% (31% CR, 46% VGPR)
- Part 2; ORR 87% (7% CR, 43% VGPR)
- 75% VGPR or better in patients treated for at least 6 months

Data presented at ASH 2014

Daratumumab: Early Signs of Clinical Activity

Ph Ib MM Combo Study with Velcade / Pomalidomide Regimens



- ORR:
  - 100% in newly diagnosed group (Velcade combinations)
  - 50% in relapsed group –all ≥VGPR (POM-D combination)

V, bortezomib; D, dexamethasone; DARA, daratumumab; M, melphalan; P, prednisone; T, thalidomide; POM, pomalidomide.
sCR, stringent complete response; VGPR, very good partial response; PR, partial response; MR, minimal response; PD, progressive disease.

Data presented at ASH 2014

Arzerra® (ofatumumab)

Our First Marketed Product

- Human antibody targeting CD20 on cancerous B-cells
- Differentiated vs other CD20 mAb, targets slice of > $8B market

Cancer

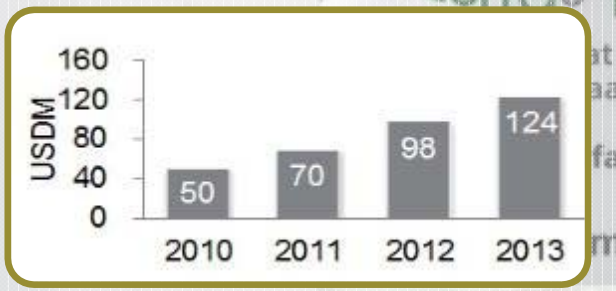
- Approved*
  - US 1st Line CLL in combo w/ chlorambucil
  - EU 1st Line CLL in combo w/ chlorambucil or bendamustine
  - Fludarabine and alemtuzumab refractory CLL
- Phase III trials in CLL & FL
- Novartis potential partner 2015 (subject to GSK - Novartis deal close)

Autoimmune diseases (unapproved)

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

Sales Growth by GSK

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

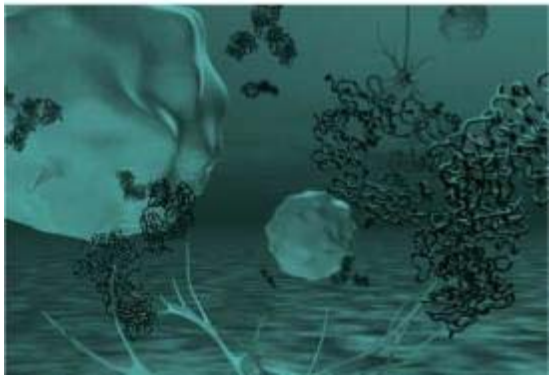


*In US approved in combination with chlorambucil for the treatment of previously untreated patients with CLL for whom fludarabine-based therapy is considered inappropriate as well as for the treatment of patients with CLL refractory to fludarabine and alemtuzumab.

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.

Transfer Ofatumumab Collaboration from GSK to Novartis

- Existing ofatumumab collaboration to be transferred to Novartis
- Novartis to develop ofatumumab in cancer indications
- GSK to continue ofatumumab development in autoimmune diseases
- No further Genmab funding beyond December 2014
- Future cash impact GBP 60 M (DKK 570 M)
- CD20 exclusivity provisions modified
- Agreement dependent on closing of wider GSK-Novartis transaction



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

Note: The indications above are unapproved
*Interim data reported

HuMax®-TF-ADC: In the Clinic

Next Generation Therapeutics

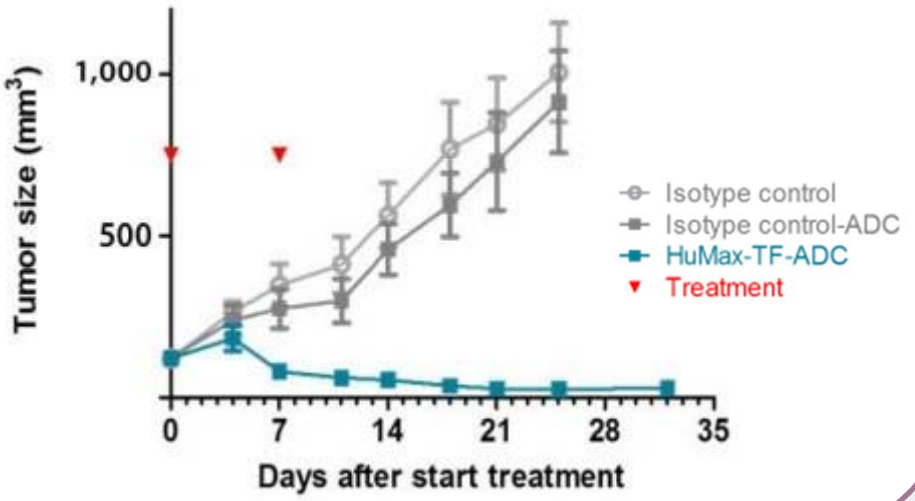
8 Tumors

- Ovary, cervix, endometrium, bladder, prostate, head & neck, esophagus, lung
- Potential 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)

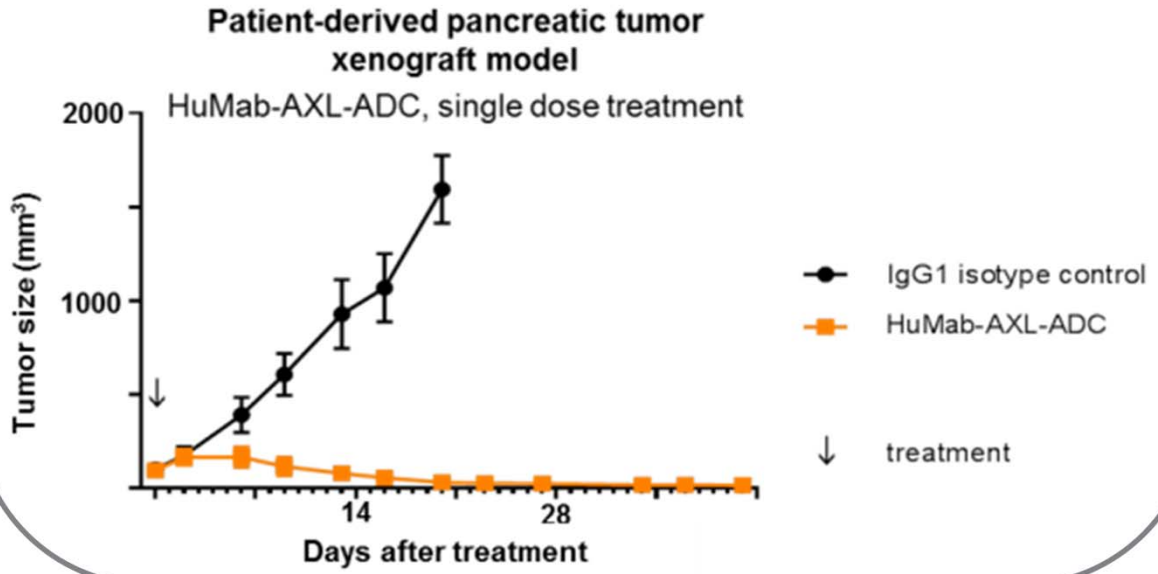
Pre-clinical Cervical Cancer Model



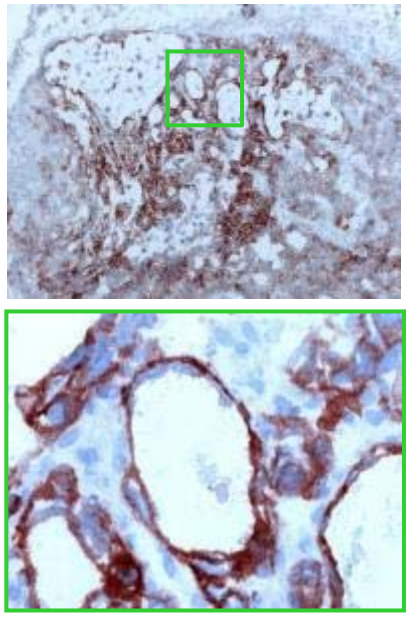
HuMax-AXL-ADC Efficacy in *in vivo* Tumor Model

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



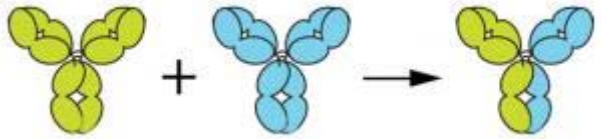
AXL antibody

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 progr., $175M potential deal value + royalties)
  - Janssen Biotech (20 progr., $3.6B potential deal value + royalties)
- 7 Research deals
  - Lilly, Kirin, Cormorant, undisclosed major Biotech, Agenus, BioNovion, Humabs BioMed

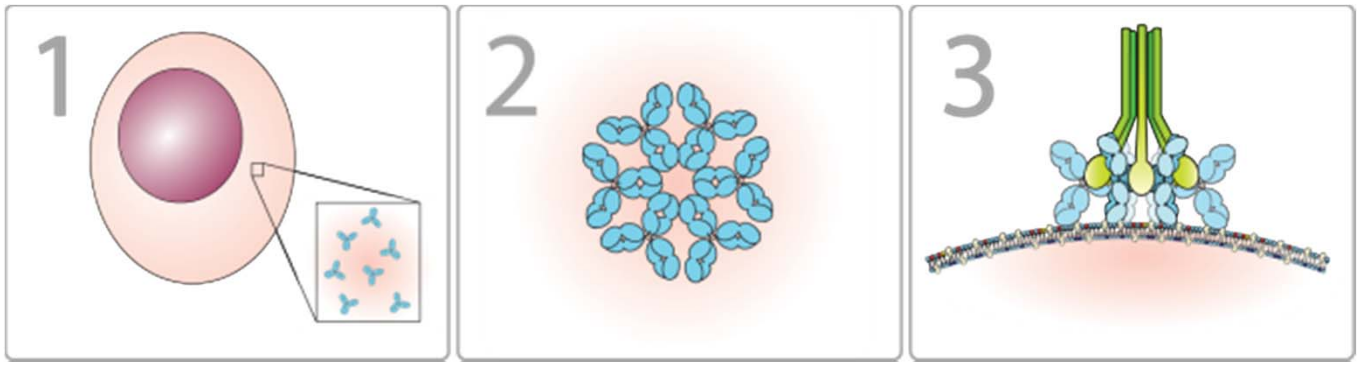
HexaBody™ Technology

Robust Effector Function Enhanced Antibodies

HexaBody

HexaBody

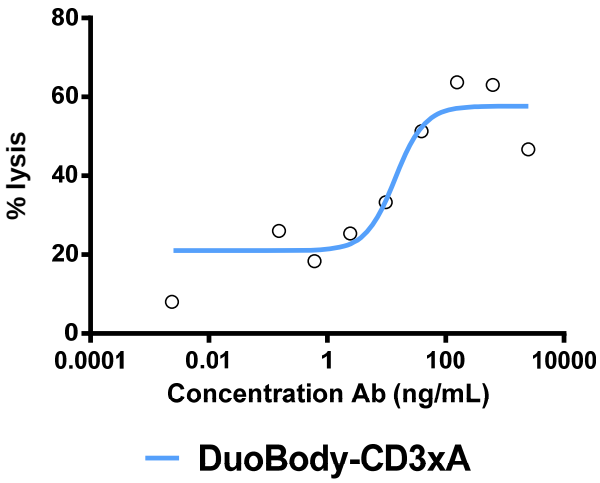
- Enables antibodies to readily form clusters of 6 (hexamers)
- Induces & enhances target cell killing after binding via CDC
- CDC capability to essentially any antibody
- Builds on natural antibody biology - minimal engineering
- Create novel, differentiated products in cancer & infect. dis.
- Repurpose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

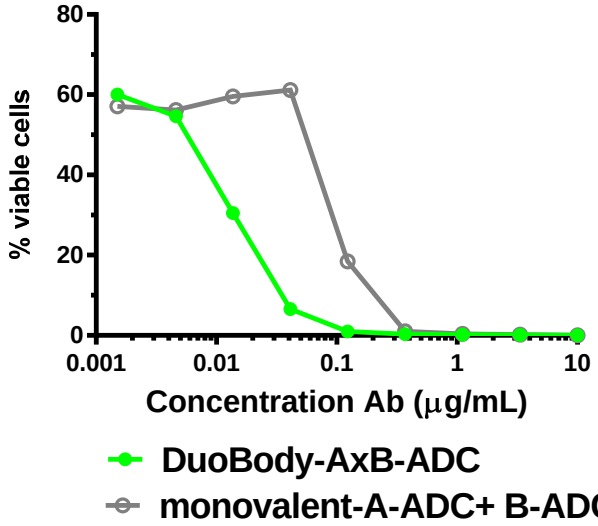


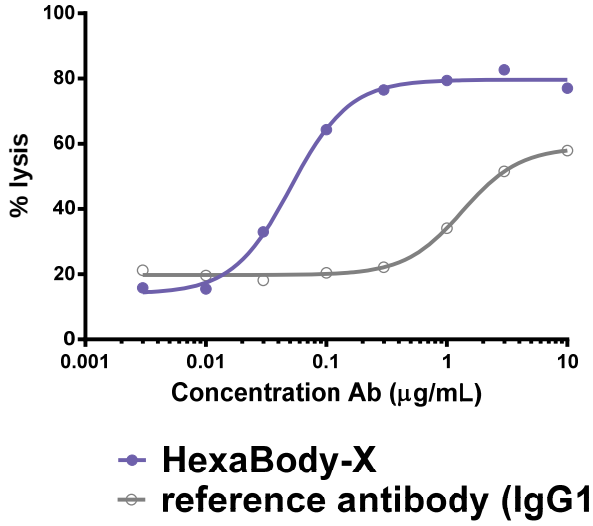
Genmab's Robust Innovative Pre-Clinical Pipeline

DuoBody™ formats

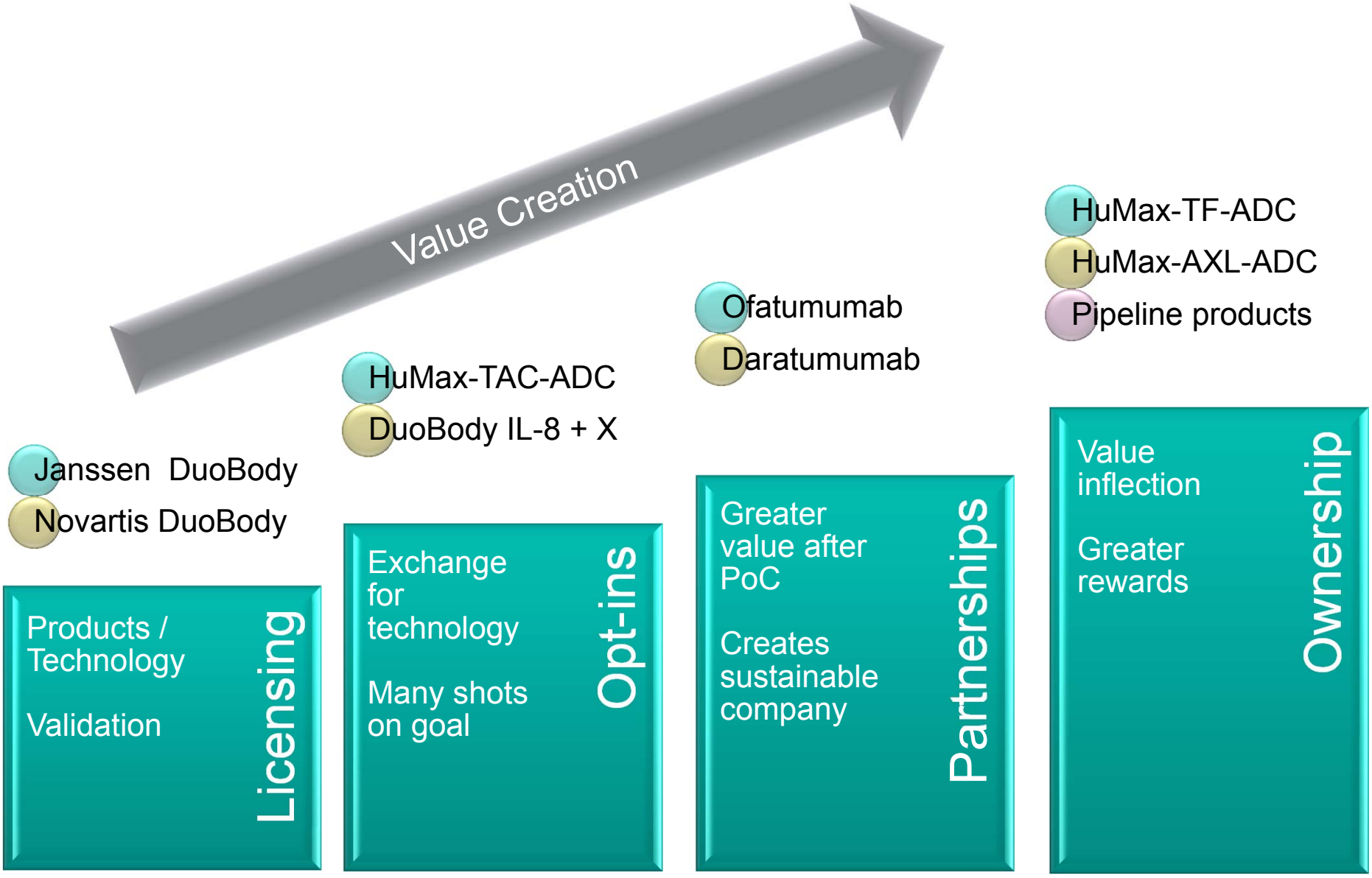
HexaBody™ format







Creating Value With Our Technologies

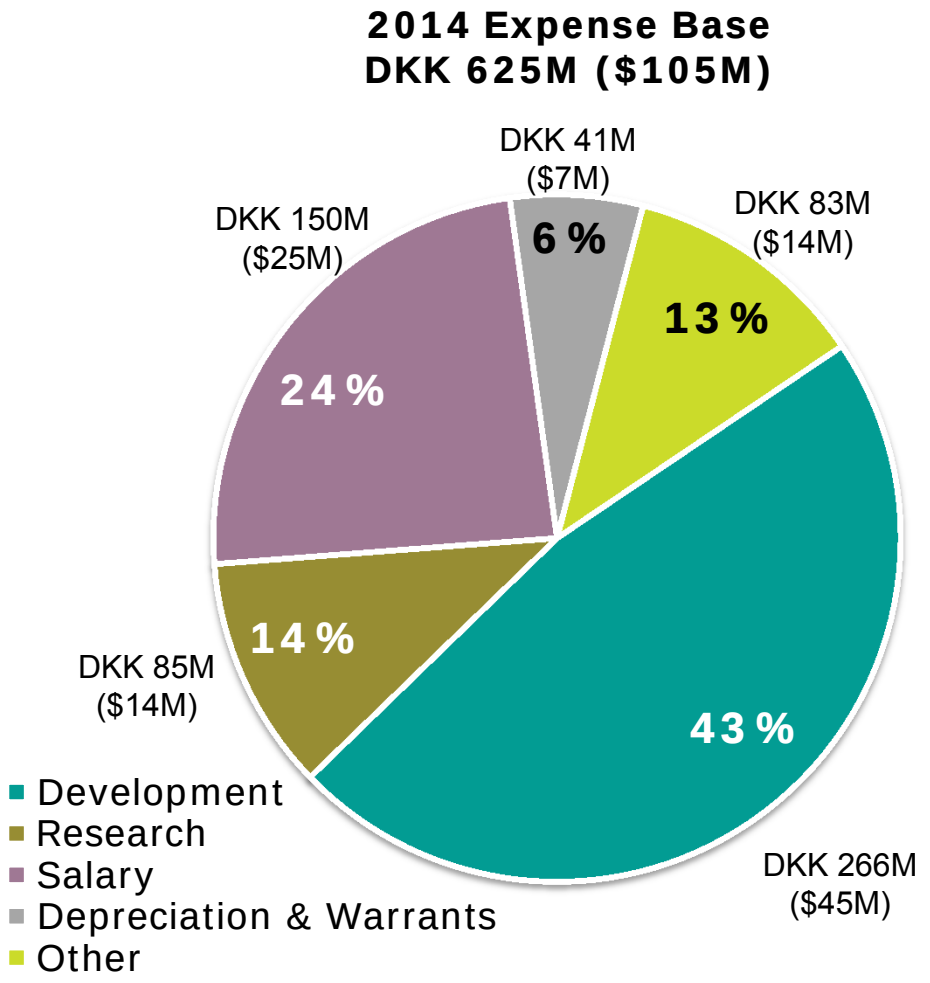


Well-Capitalized Biotech – 2014 Guidance

Income Statement	DKKM	USDM*
Revenue	800 - 875	135 - 148
Operating expenses	(600) – (650)	(101) – (110)
Operating income	175 – 250	30 - 42

Cash Position	DKKM	USDM*
Cash position beginning of year**	1,557	263
Cash used in operations	0 – (50)	0 - (8)
Proceeds from private placement	972	164
Warrant exercises	46	8
Cash position at end of year**	2,450 – 2,550	414 - 431

**USD 1.00 = DKK 5.9152*
***Cash, cash equivalents and marketable securities*



2015 Goals: Maximizing Pipeline Value

Priority	✓	Targeted Milestone
Maximize daratumumab clinical progress		» Phase II MM monotherapy data & - if favorable, discuss regulatory next steps with health authorities » Start multiple new MM trials » Start non-MM clinical trial
Optimize ofatumumab value		» File for an additional indication » Phase III relapsed CLL data » Start Phase III sc autoimmune trials
Strengthen differentiated product pipeline		» Phase I HuMax-TF-ADC data » Progress HuMax-AXL-ADC » Progress pre-clinical DuoBody & HexaBody projects
Broaden partnership portfolio with next generation technologies		» Expand DuoBody & HexaBody collaborations » Progress partnered programs » New IND filings
Disciplined financial management		» Maintain cost base while selectively investing to advance pipeline

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

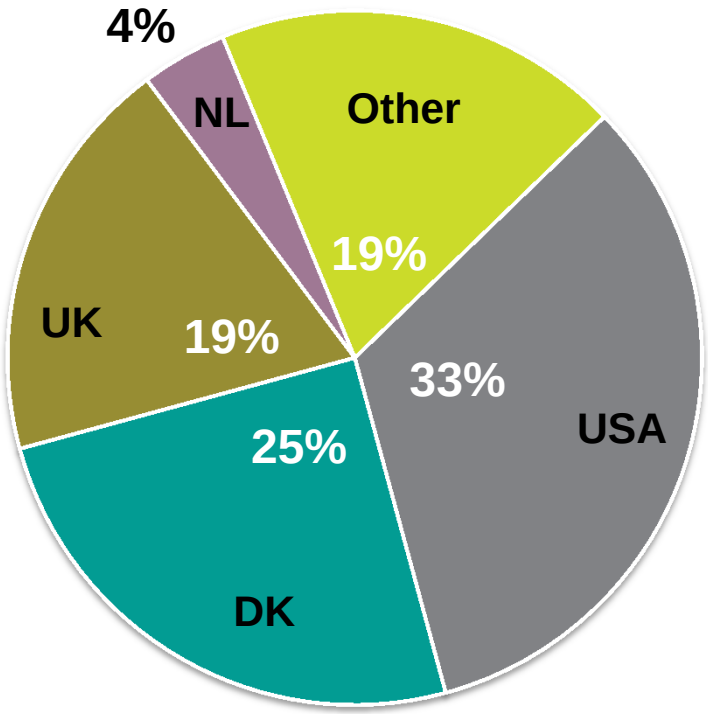
Appendix

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: 56,967,419
  - Total diluted shares: 62,247,558

Geographical Shareholder Distribution December 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]

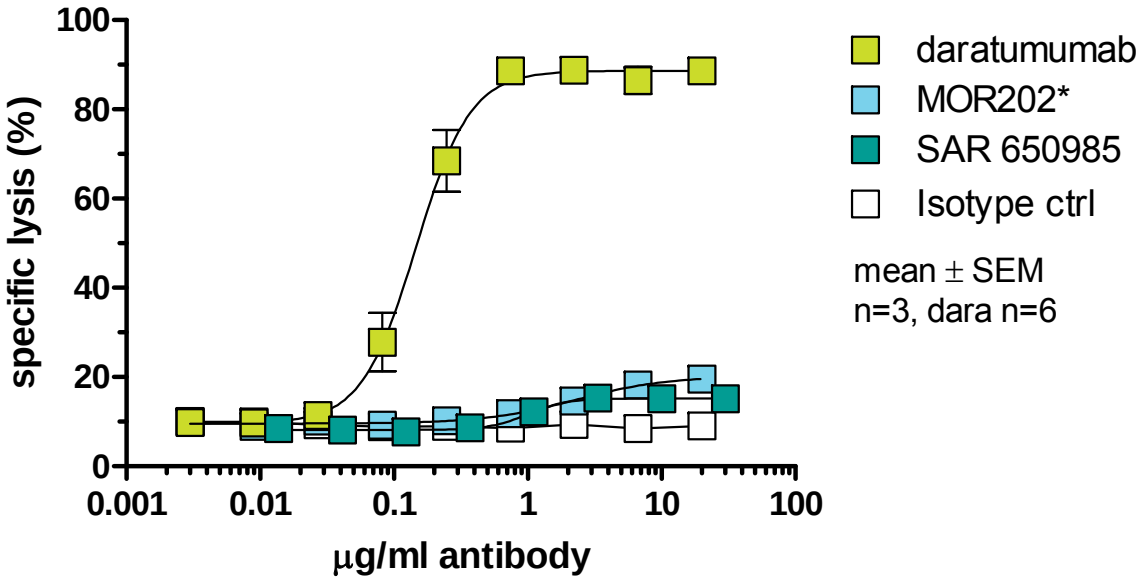
[1]Incidence for MS does not include Japan

[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 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: Direct In-House Pre-Clinical Comparison with Surrogates of Competitor Antibodies

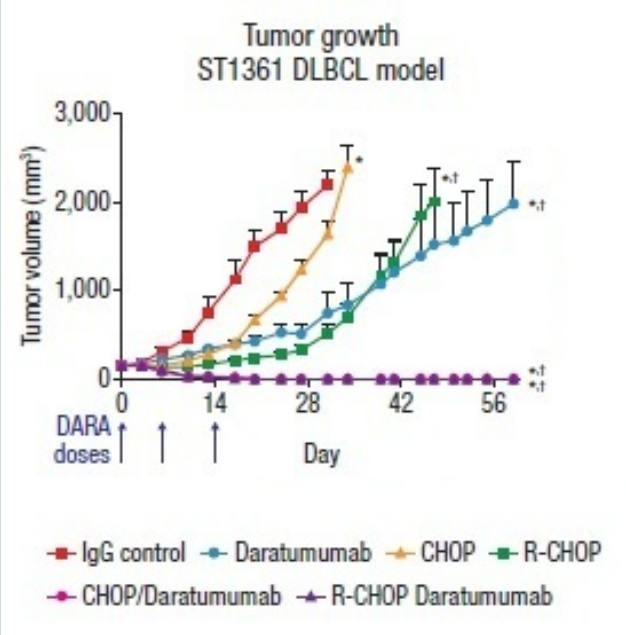
		Daratumumab (Genmab)	MOR202 [1] (MorphoSys)	SAR 650984 [1, 2] (Sanofi-Aventis)	AB79 (Millennium/Takeda)
	Origin	Human	Human	Humanized	Human
	Development phase	Phase III	Phase I/IIa	Phase I/II	Pre-clinical
	Binding [3]	+++	++	+++	+++
Mechanism of Action	ADCC (max lysis) [3]	++	++	++	++
	CDC (max lysis) [3]	+++	+	+	++
	Phagocytosis [3, 4]	+++	++	nd	+++
	Ecto-enzyme function	+	-	+++	+
	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 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

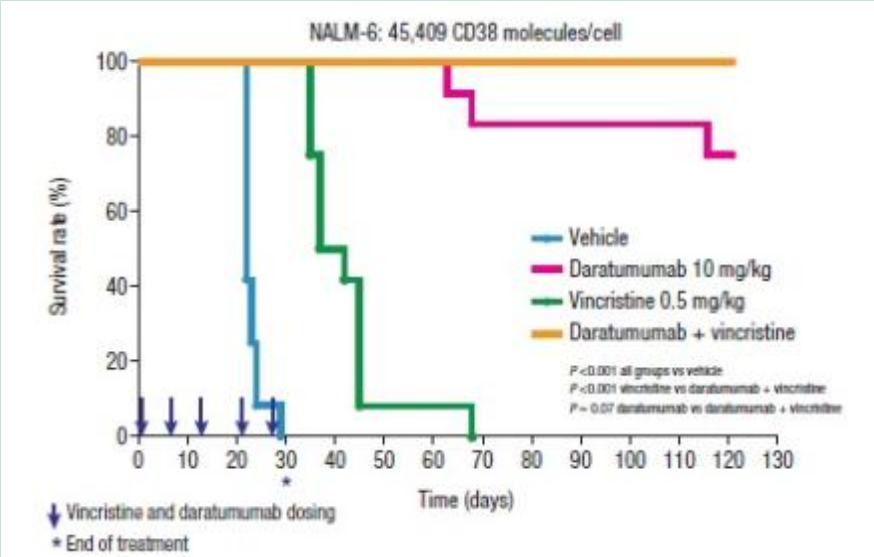
Daratumumab Beyond Multiple Myeloma

Pre-clinical Activity in DLBCL & ALL

Effect daratumumab on tumor growth in patient-derived DLBCL model



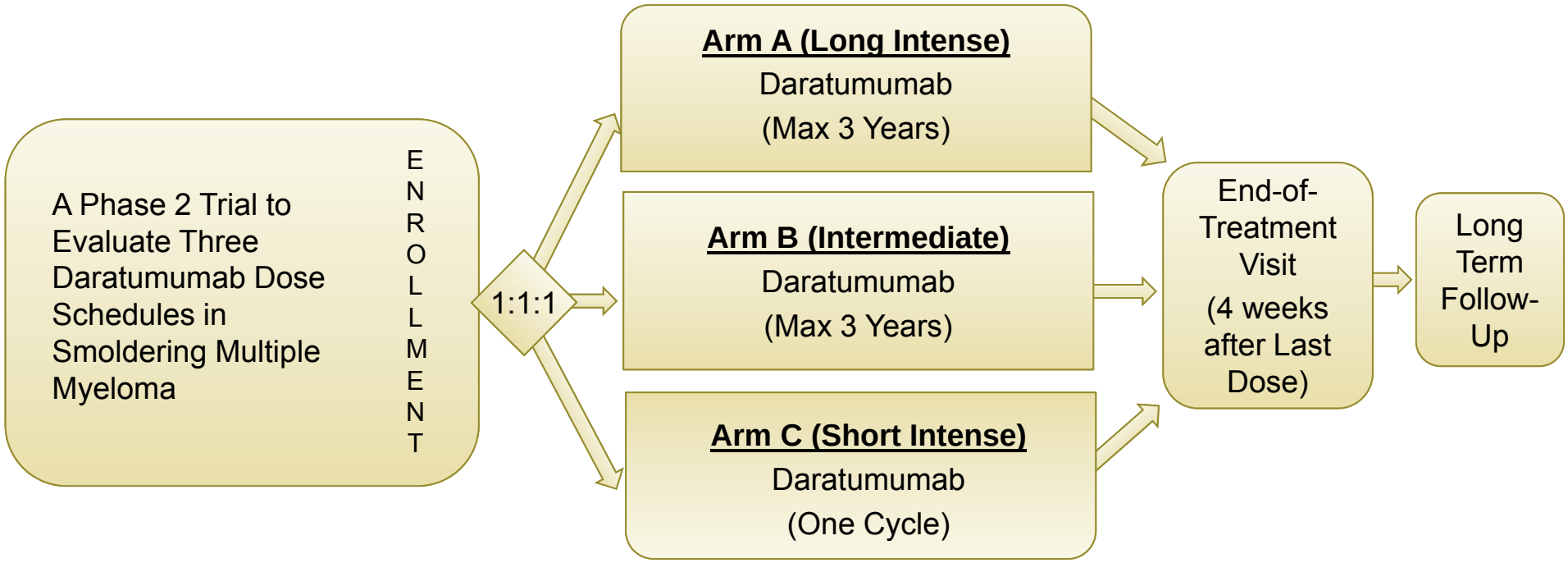
Effect daratumumab with or without vincristine in ALL xenograft model



Data presented at EHA 2014

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Smoldering

MM2001 Enrolling Soon (1Q15): 120 Est. Pts

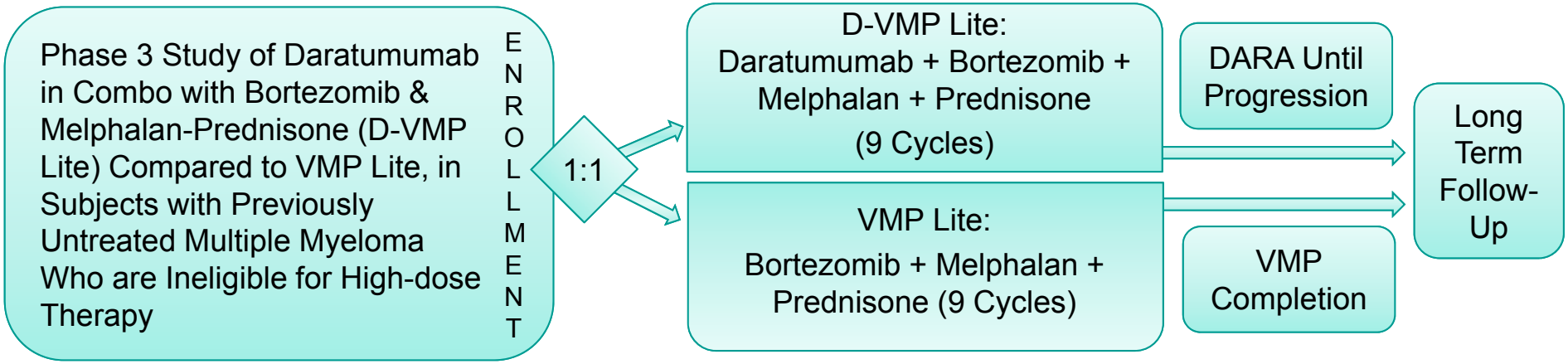


1 Cycle = 8 Weeks

Primary Endpoints: CR & Time to Progression to Symptomatic Multiple Myeloma

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Frontline Non-Transplant

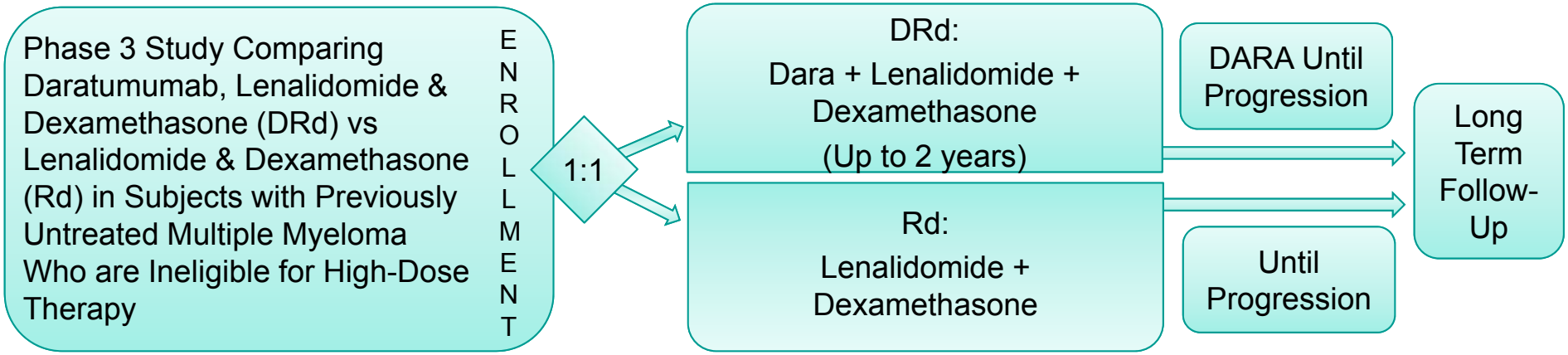
NCT 02195479 (MMY3007 Alcyone) Enrolling Now: 700 Est. Pts



Primary Endpoint: PFS

1 Cycle = 42 Days

NCT 02252172 (MMY3008 Maia) Enrolling Soon (1Q15): 730 Est. Pts

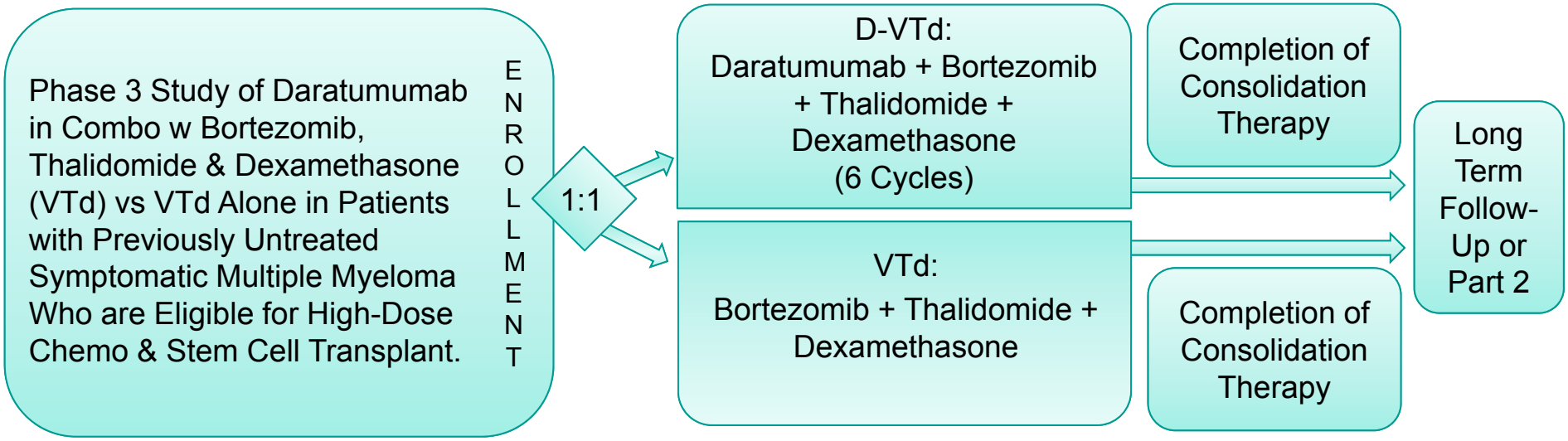


Primary Endpoint: PFS

1 Cycle = 28 Days

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Frontline Transplant

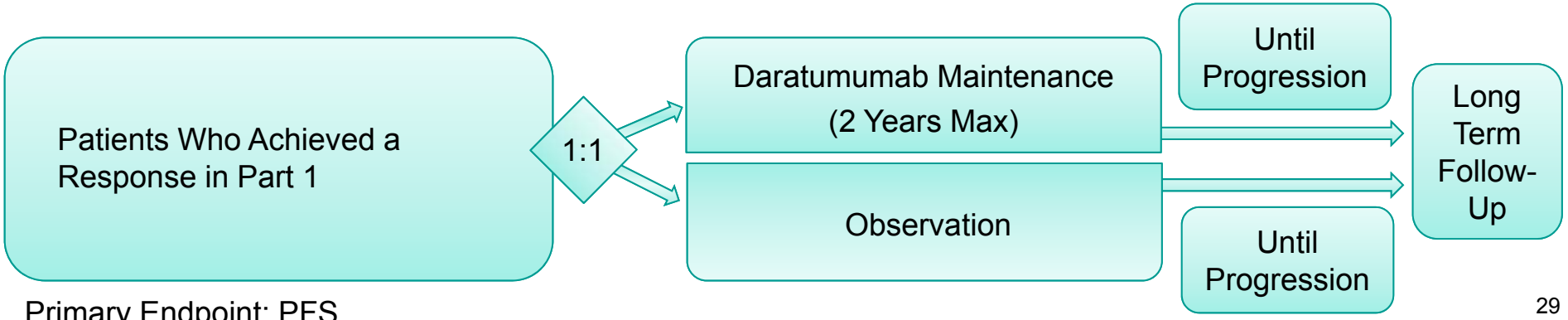
MMY3006 (Cassiopeia) Enrolling Soon (2Q15): 1,000 Est. Pts: Part 1



Primary Endpoint: sCR

1 Cycle = 21 Days

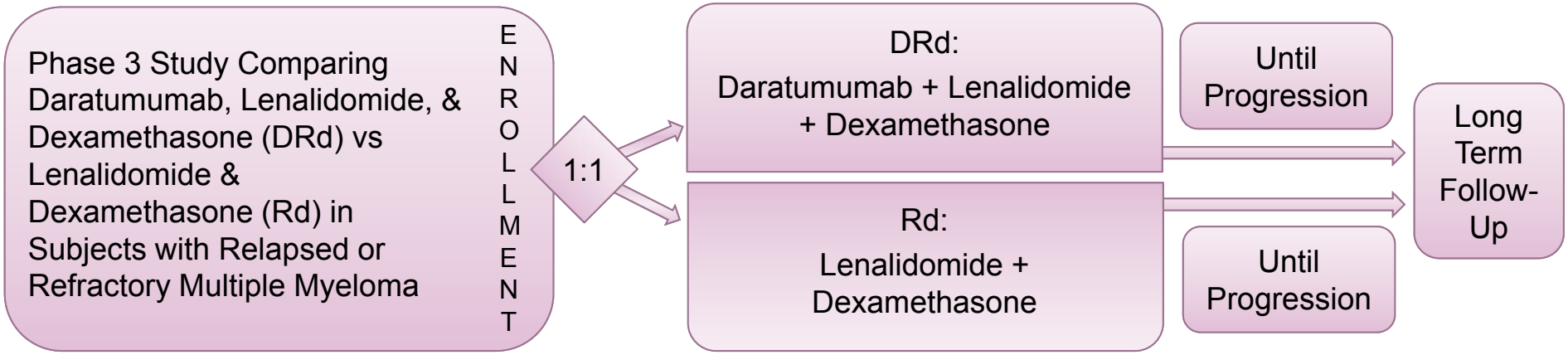
MMY3006 Part 2



Primary Endpoint: PFS

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Relapsed or Refractory

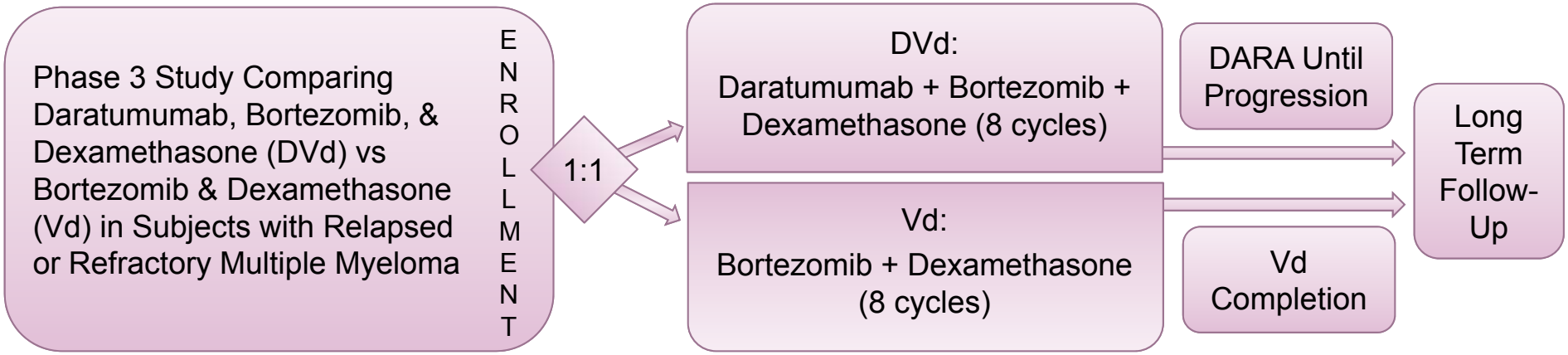
NCT 02076009 (MMY3003 Pollux) Enrolling Now: 560 Est. Pts



Primary Endpoint: PFS

1 Cycle = 28 Days

NCT 02136134 (MMY3004 Castor) Enrolling Now: 480 Est. Pts



Primary Endpoint: PFS

1 Cycle = 21 Days First 8 Cycles Thereafter 28 Days

2014 Ofatumumab Data

Ofatumumab Maintenance Prolongs PFS in Relapsed CLL

Population	• Pts in CR or PR after 2nd & 3rd line treatment for CLL • Ofatumumab vs Observation

Key Safety Data	• Grade 3 & 4 AEs
	  • Ofatumumab 25%
	  • Observation 17%

Key Efficacy Data	• PFS
	  • Ofatumumab 28.6 months
	  • Observation 15.2 months

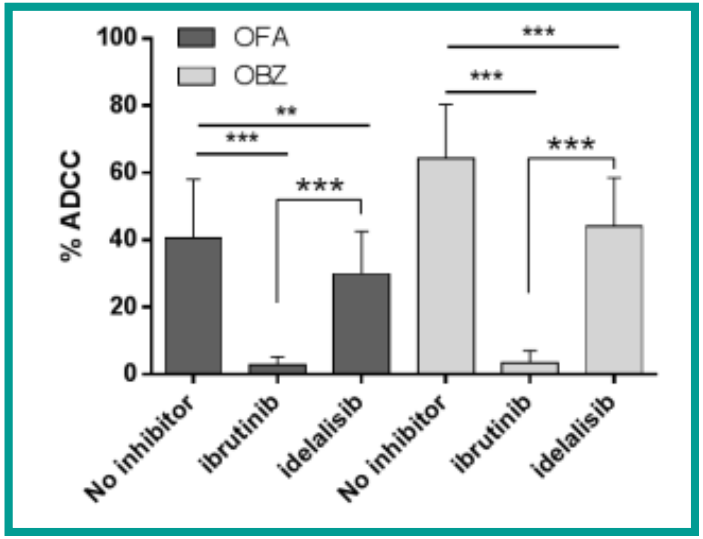
Conclusion	• Ofatumumab maintenance provided significant clinical benefit for pts with relapsed CLL • Well-tolerated with no unexpected toxicities

Data presented at ASH 2014

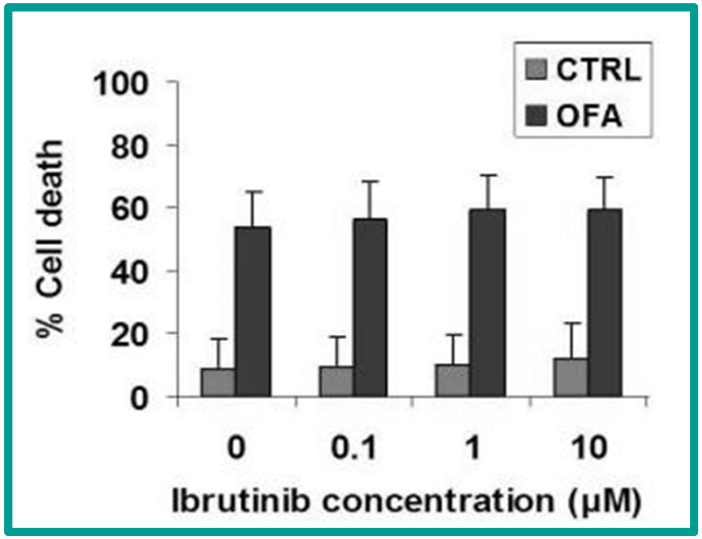
Ofatumumab

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

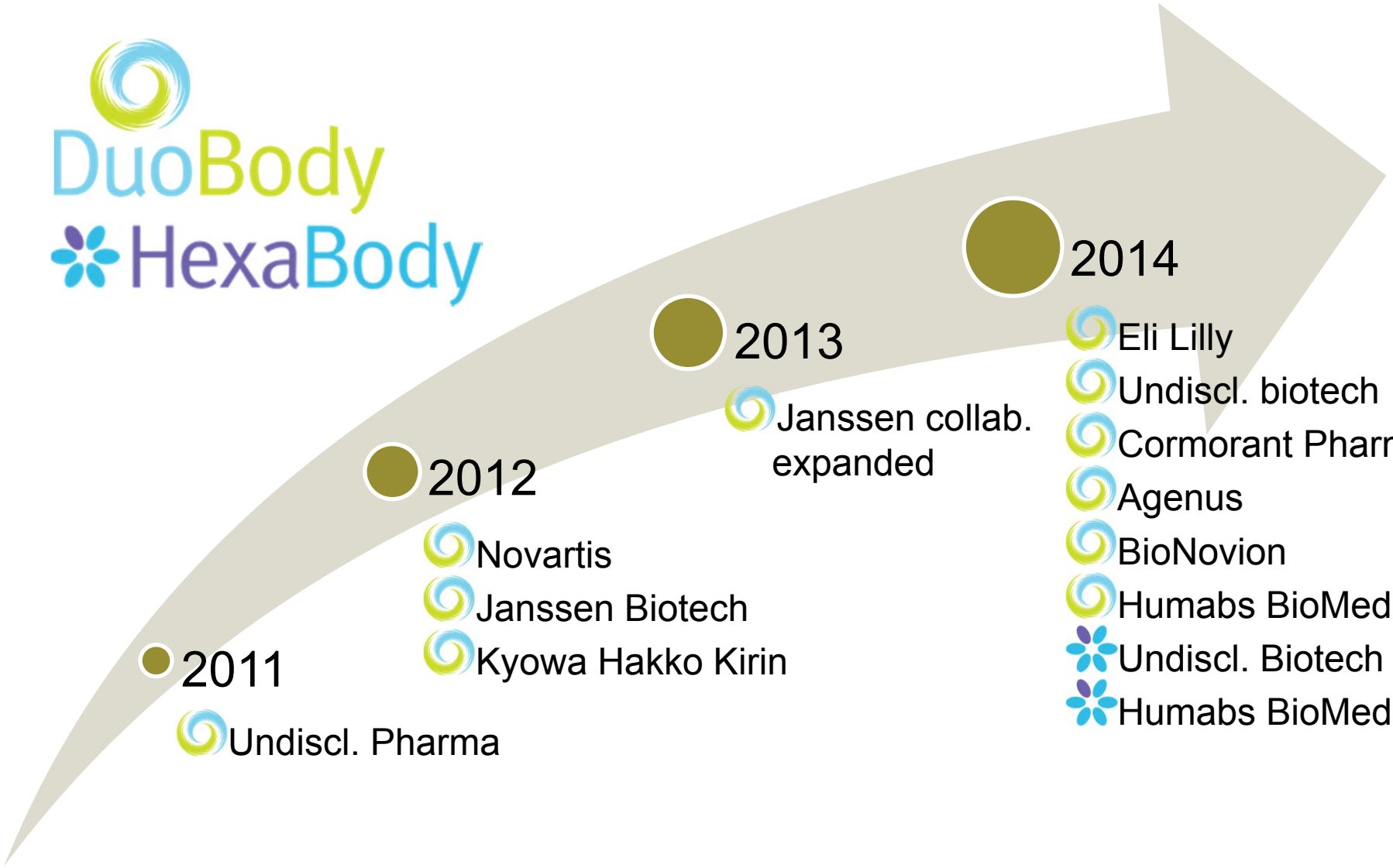
Sources:

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

Progressing DuoBody & HexaBody Partnering

DuoBody
HexaBody



Immuno-Oncology

Turning Cancer into a Chronic Condition

Hottest Area in Oncology

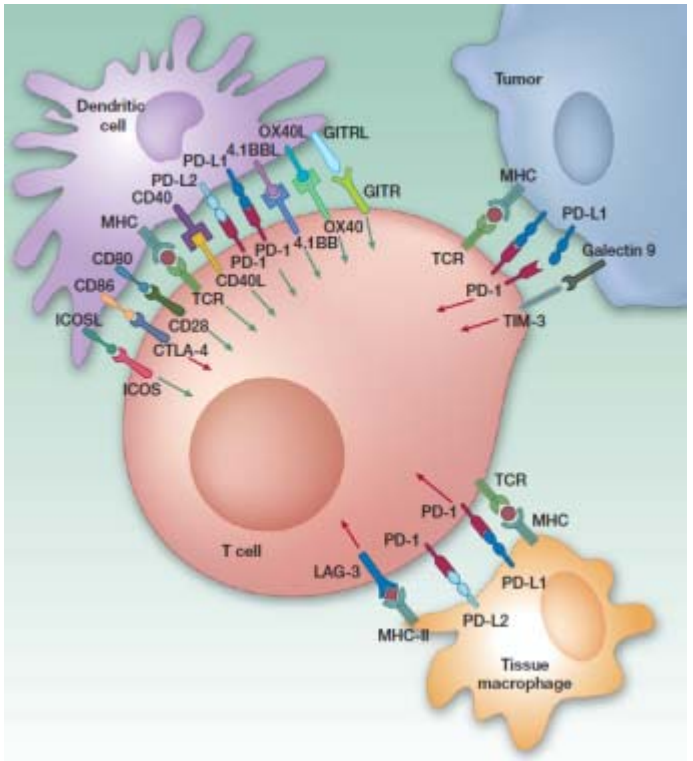
- Long duration of response
- Potential game changer
  - $35B market

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



Ott et al. Clin Cancer Res. 2013

Better Antibodies By Design

Genmab