



*Innovating  
antibodies,  
improving lives*

# Better Antibodies By Design

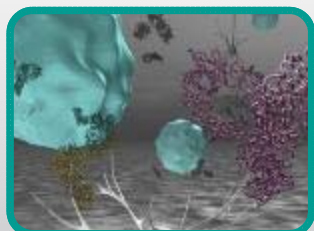
Kempen 8<sup>th</sup> Healthcare & Life Sciences Conference  
April 16, 2015



# 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










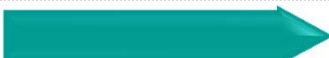



- World class antibody know-how
- Proprietary technologies – DuoBody® & HexaBody™
- Innovative pre-clinical pipeline



## 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	II	III
<b>Ofatumumab</b> Target: CD20 Indication: Cancer Partner: Novartis	Chronic lymphocytic leukemia (CLL)				
	Follicular lymphoma (FL)				
<b>Ofatumumab</b> Target: CD20 Indication: Autoimmune Partner: GSK	Pemphigus vulgaris (PV)				
	Relapsing remitting multiple sclerosis (RRMS)				
	Neuromyelitis optica (NMO)				
<b>Daratumumab</b> Target: CD38 Partner: Janssen	Multiple myeloma (MM)				
	Non-Hodgkin's Lymphoma (NHL)				
<b>HuMax-TF-ADC</b> Target: TF Partner: Seattle Genetics	Solid Cancers				
<b>Teprotumumab</b> Target: IGF-1R Partner: River Vision	Active thyroid eye disease				
	Diabetic macular edema				
<b>HuMax-TAC-ADC</b> Target: CD25 Partner: ADCT	Lymphomas				
➤ <b>20 Active Pre-clinical programs incl. HuMax-AXL-ADC</b>	Partnered programs: HuMab, DuoBody & HexaBody				
	Proprietary programs: HuMab, HuMab-ADC, DuoBody, DuoBody-ADC & HexaBody				

 Subcutaneous formulation of ofatumumab

# Daratumumab (HuMax<sup>®</sup>-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 MM clinical 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
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, BTB population					
NHL	Relapsed or Refractory	Mono*					
Non-MM	Various	Potential in: FL, DLBCL, Mantle Cell Lymphoma, ALL, AML, CLL					

\*Study announced, first patient not yet dosed. \*\*Maintenance integrated into some study protocols

VMP = bortezomib & melphalan-prednisone VTD = bortezomib, thalidomide & dexamethasone BTB = Breakthrough Therapy Designation 6



# Positive Preliminary Results:

## Daratumumab Phase II Study in Double Refractory MM

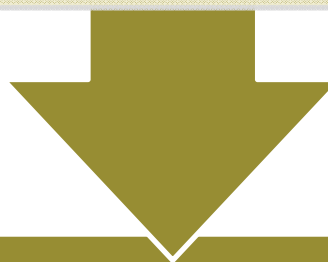
### Study Design

2 part study, enrolled 124 pts

- Part 1: defined optimal daratumumab regimen
- Part 2: expansion based on Part 1

Pts received at least 3 prior lines of therapy incl. a PI & an IMiD or double refractory to PI & IMiD

Primary Objective: define optimal dose, determine efficacy of 2 daratumumab treatment regimens as measured by ORR



### Results

29.2% ORR in 16 mg/kg dose group

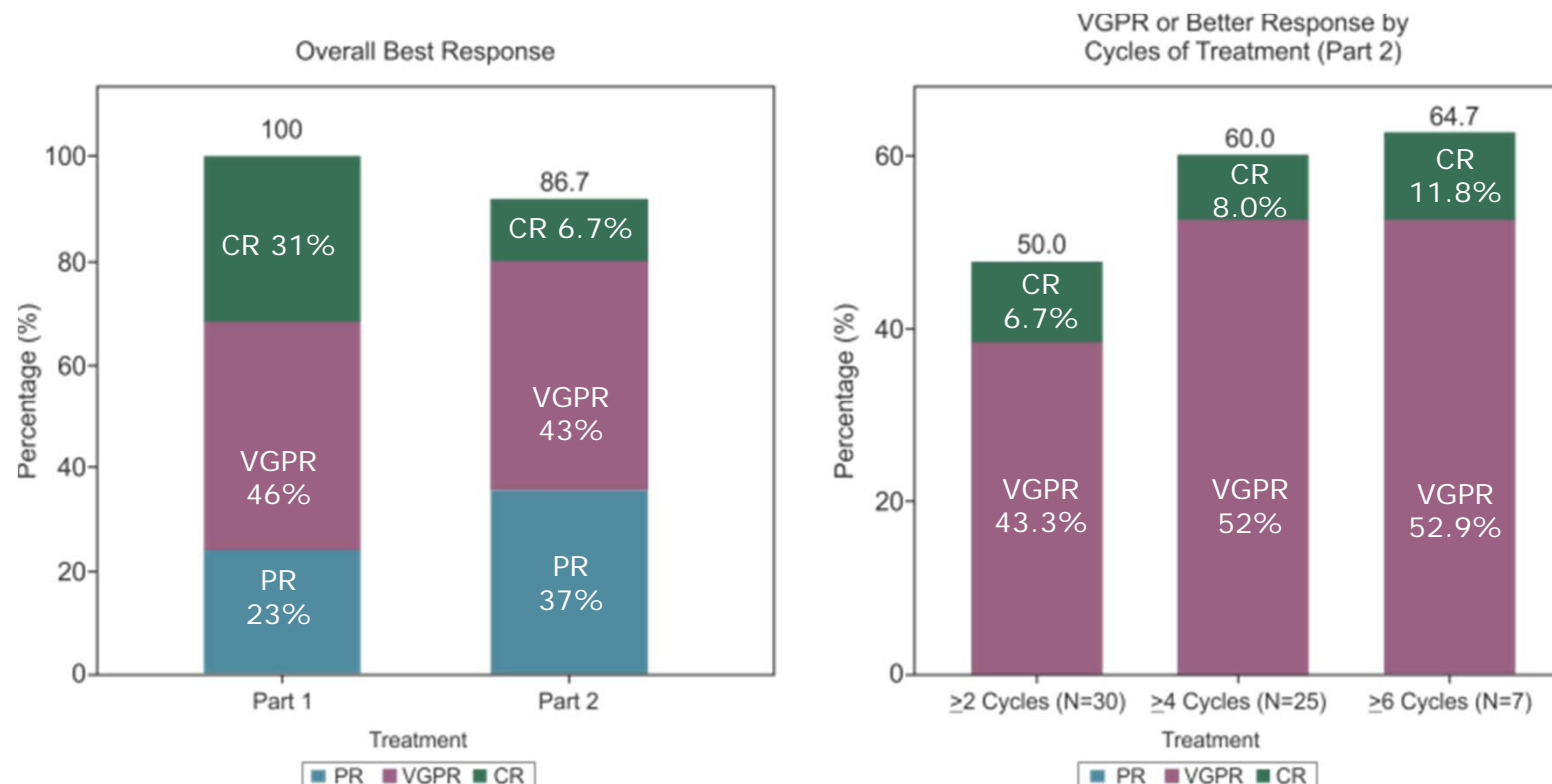
7.4 month median duration of response

Robust, durable single agent activity

Manageable safety profile

# Daratumumab: Early Signs of Clinical Activity

## Ph I/II Revlimid Combo Study in Multiple Myeloma

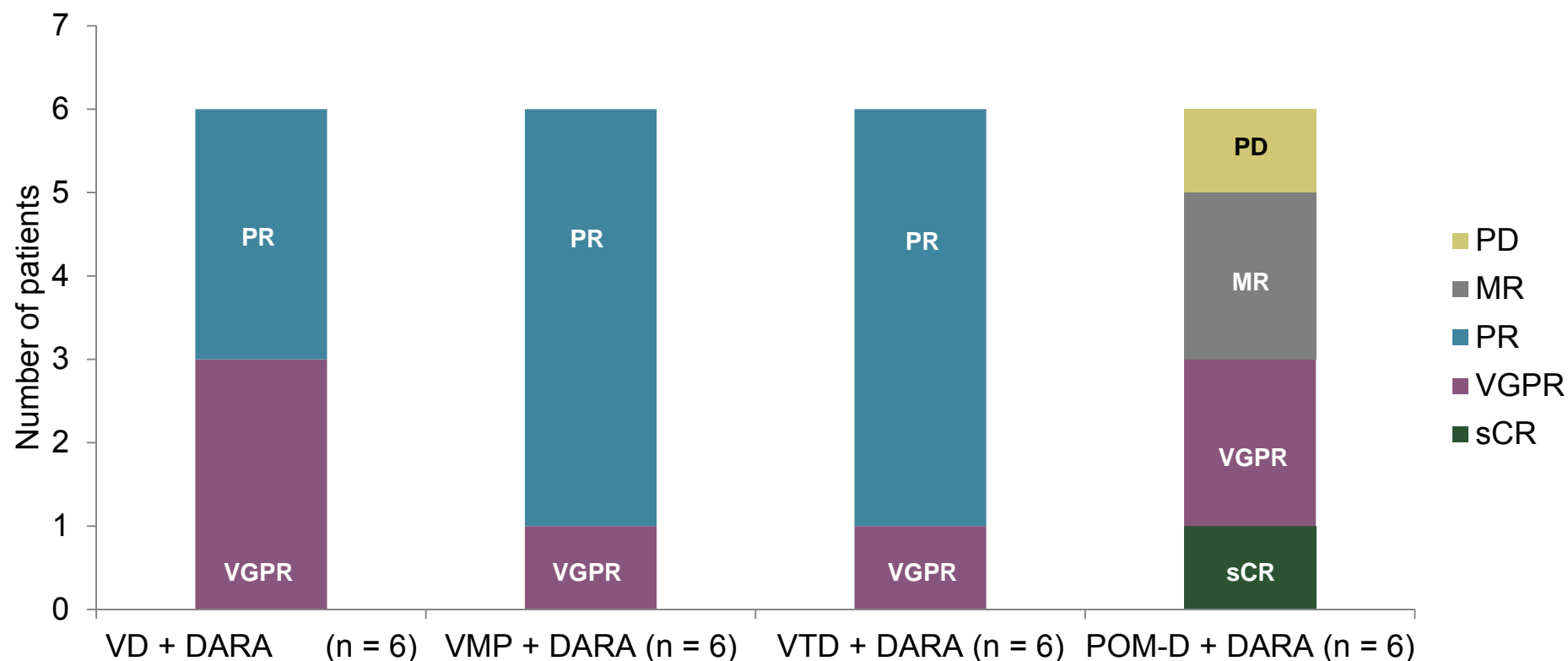


- Part 1; ORR 100% (31% CR, 46% VGPR)
- Part 2; ORR 87% (7% CR, 43% VGPR)
- 75% VGPR or better in patients treated for at least 6 months



# 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  $\geq$ 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.

# Arzerra® (ofatumumab)

## Sales by GSK

- 2014 sales GBP 54.5M (~\$82.2M); royalty DKK 101M
- Genmab Cancer Royalty = 20%

## 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 1<sup>st</sup> Line CLL in combo w/ chlorambucil
  - EU 1<sup>st</sup> Line CLL in combo w/ chlorambucil or bendamustine
  - Fludarabine and alemtuzumab refractory CLL
- Phase III trials in CLL & FL
- Partnered with Novartis

### Autoimmune diseases (unapproved)

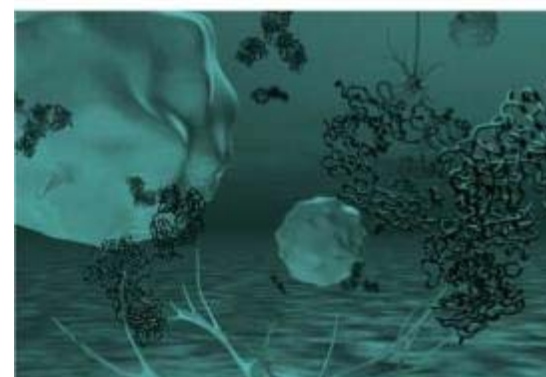
- Phase III trial ongoing in PV
- Relapsing remitting MS Ph III's & pivotal NMO trials announced
- Partnered with GSK

\*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.

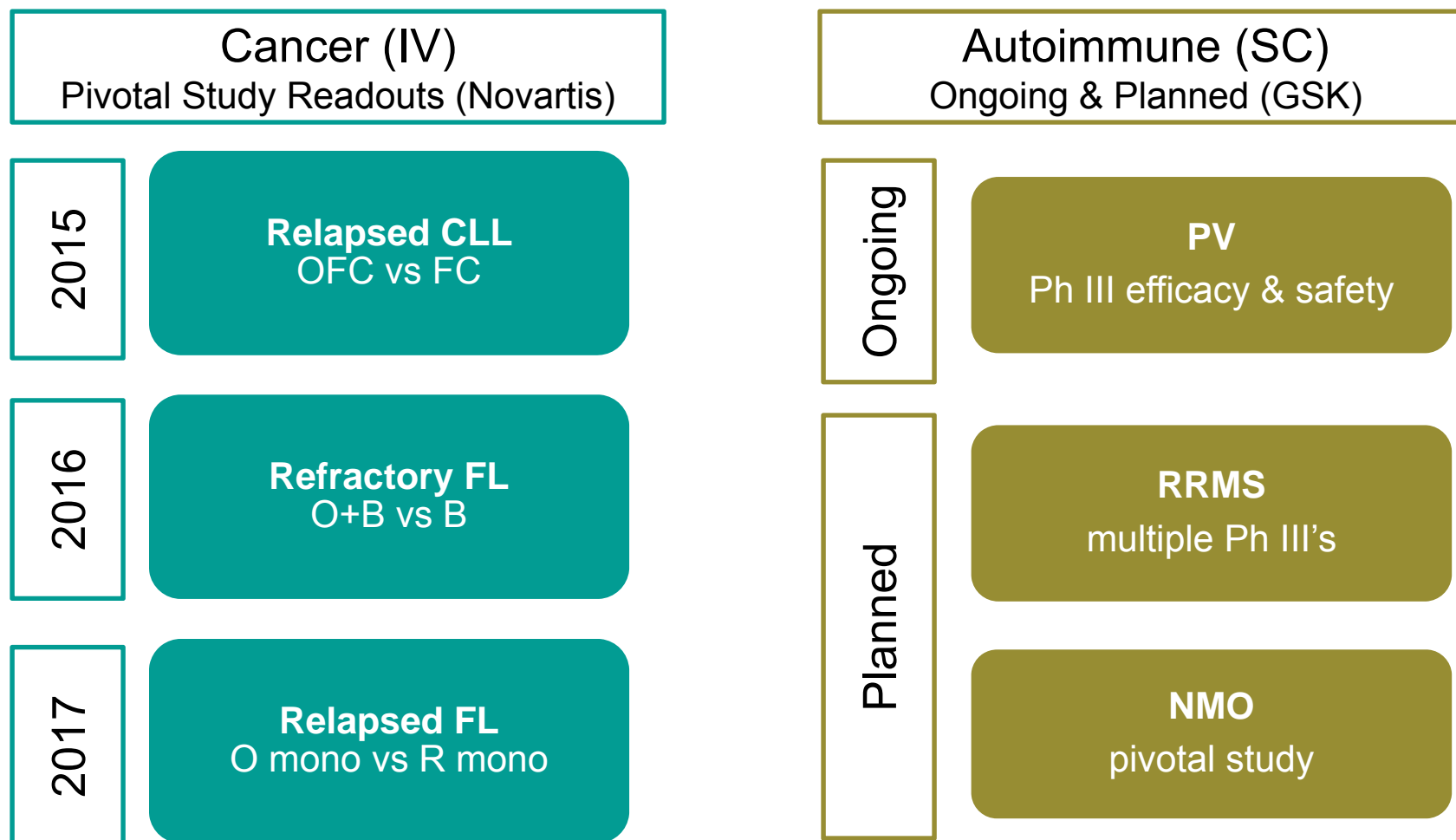
In EU approved in combination with chlorambucil or bendamustine for the treatment of patients with CLL who have not received prior therapy and who are not eligible for fludarabine-based therapy, as well as for the treatment of patients with CLL refractory to fludarabine and alemtuzumab.

## Transfer Ofatumumab Collaboration from GSK to Novartis

- Existing ofatumumab collaboration 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



# Ofatumumab: Planned & Ongoing Trials



Note: The indications above are unapproved



# HuMax<sup>®</sup>-TF-ADC: In the Clinic

## Next Generation Therapeutics

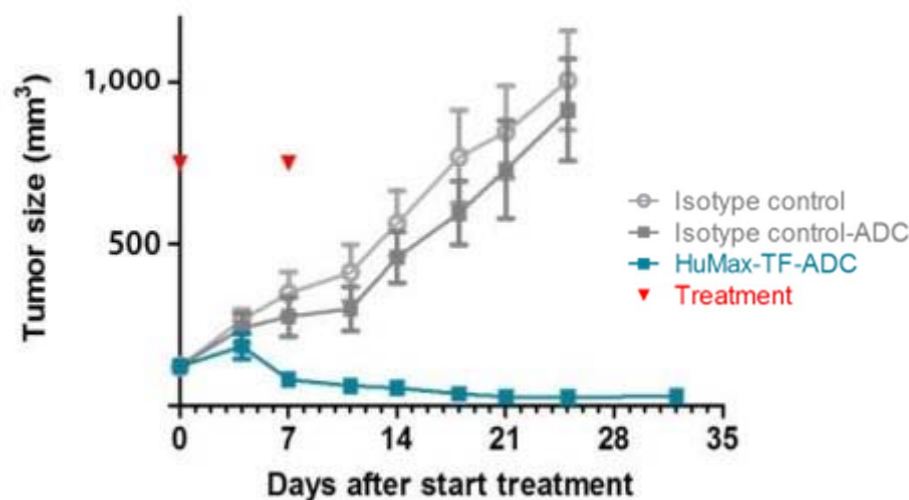
### 8 Tumors

- 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

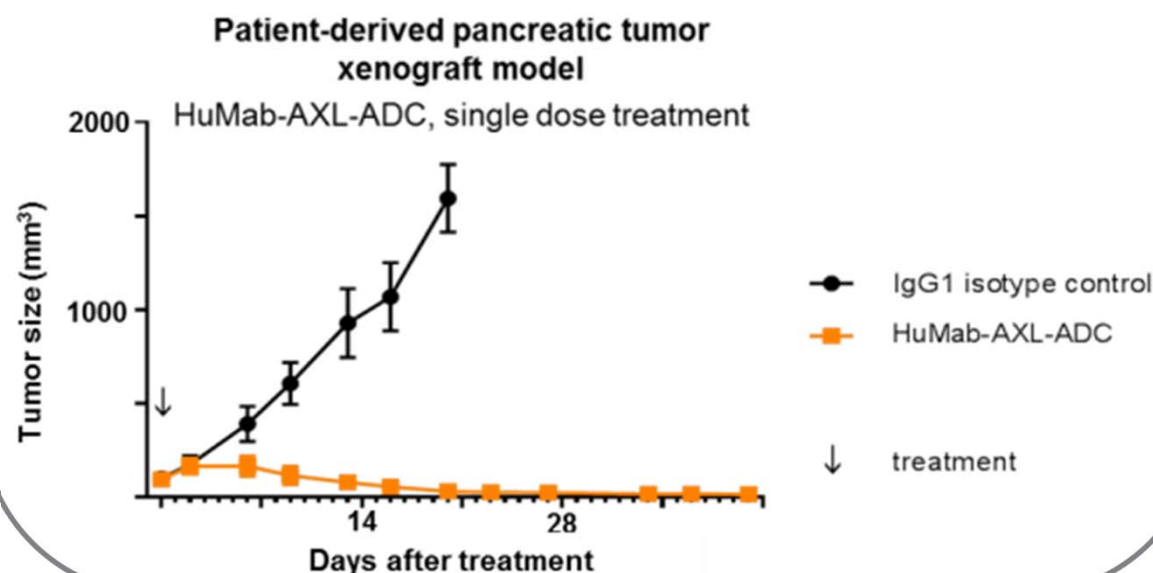




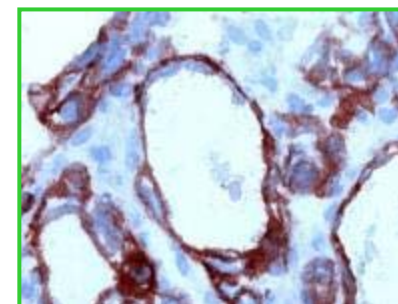
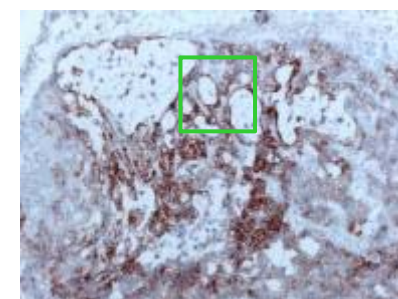
# HuMax-AXL-ADC Efficacy in *in vivo* Tumor Model

## 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

- 3 Commercial deals
  - Novartis (2 progr., \$175M potential deal value + royalties)
  - Janssen Biotech (20 progr., \$3.6B potential deal value + royalties)
  - BioNovion (expansion research deal)
- 6 Research deals
  - Lilly, Kirin, Cormorant, undisclosed major Biotech, Agenes, Humabs BioMed

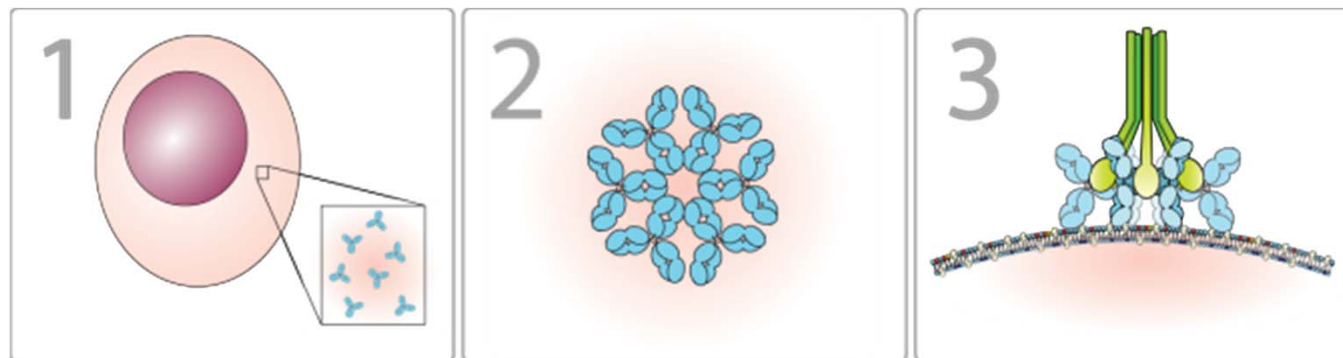
# HexaBody™ Technology

## Robust Effector Function Enhanced Antibodies



### HexaBody

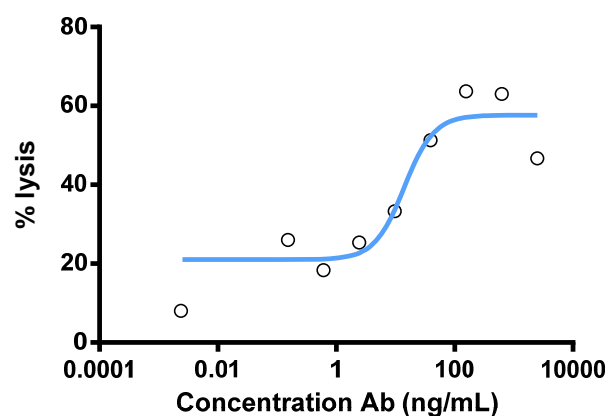
- Enables antibodies to readily form clusters of 6 (hexamers)
- Induces & enhances target cell killing after binding via CDC
- CDC capability to essentially any antibody
- Builds on natural antibody biology - minimal engineering
- Create novel, differentiated products in cancer & infect. dis.
- Repurpose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



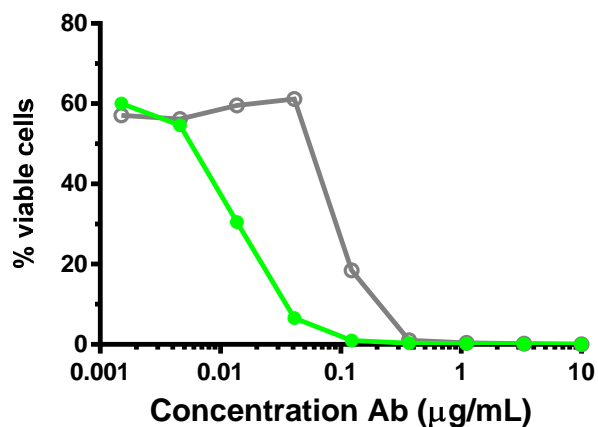
# Genmab's Robust Innovative Pre-Clinical Pipeline

 **DuoBody™** formats

 **HexaBody™** format

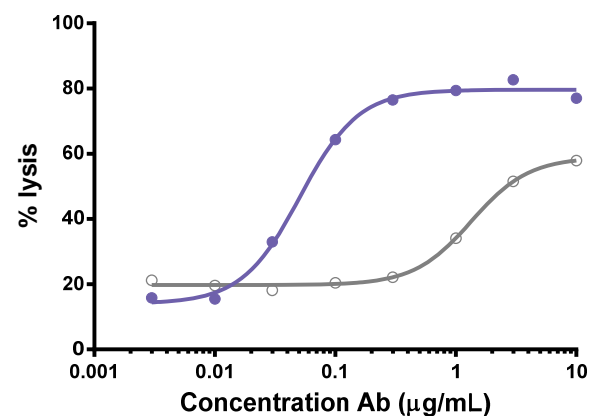


— DuoBody-CD3xA



— DuoBody-AxB-ADC

— monovalent-A-ADC+ B-ADC

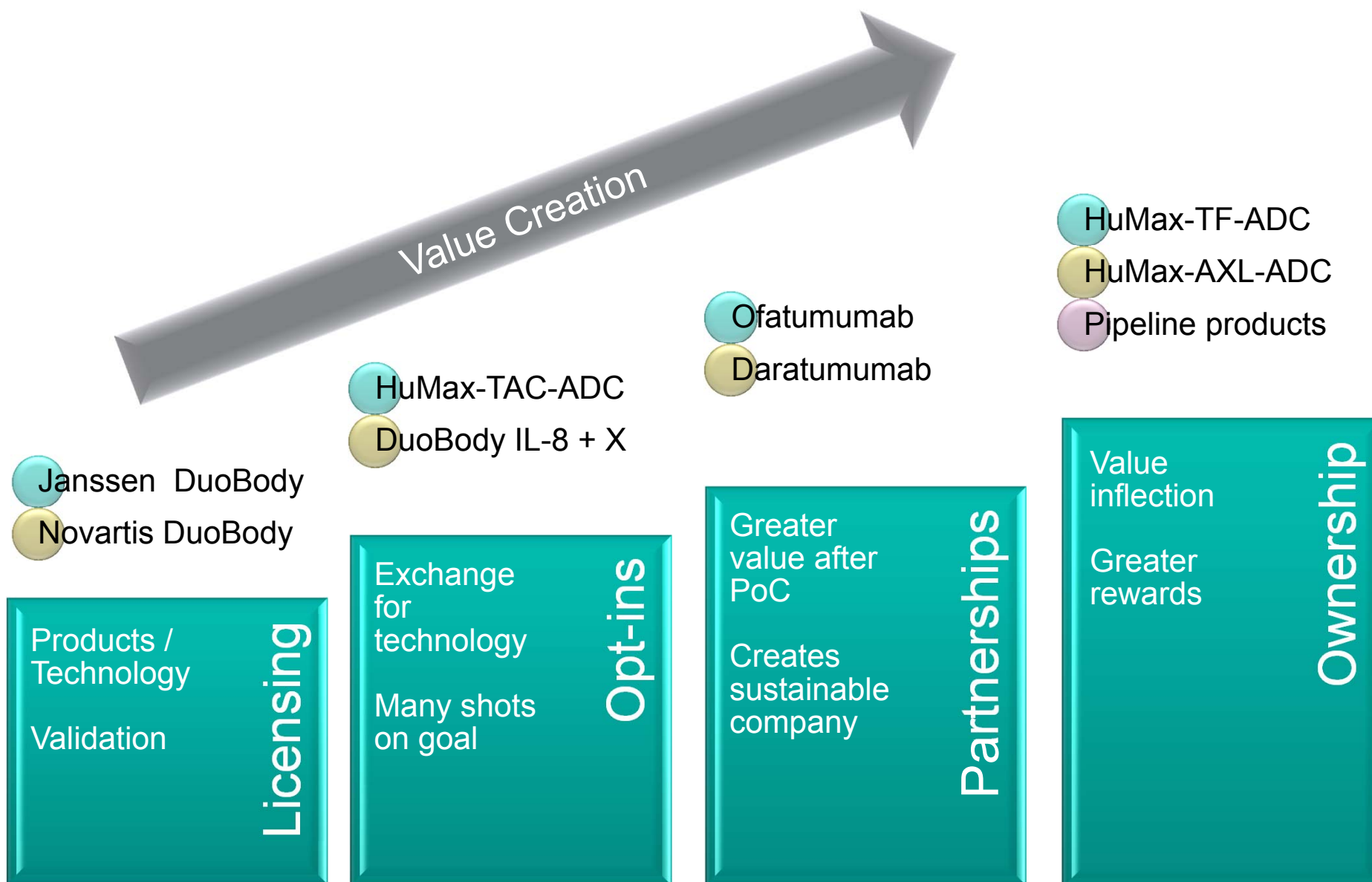


— HexaBody-X

— reference antibody (IgG1)



# Creating Value With Our Technologies

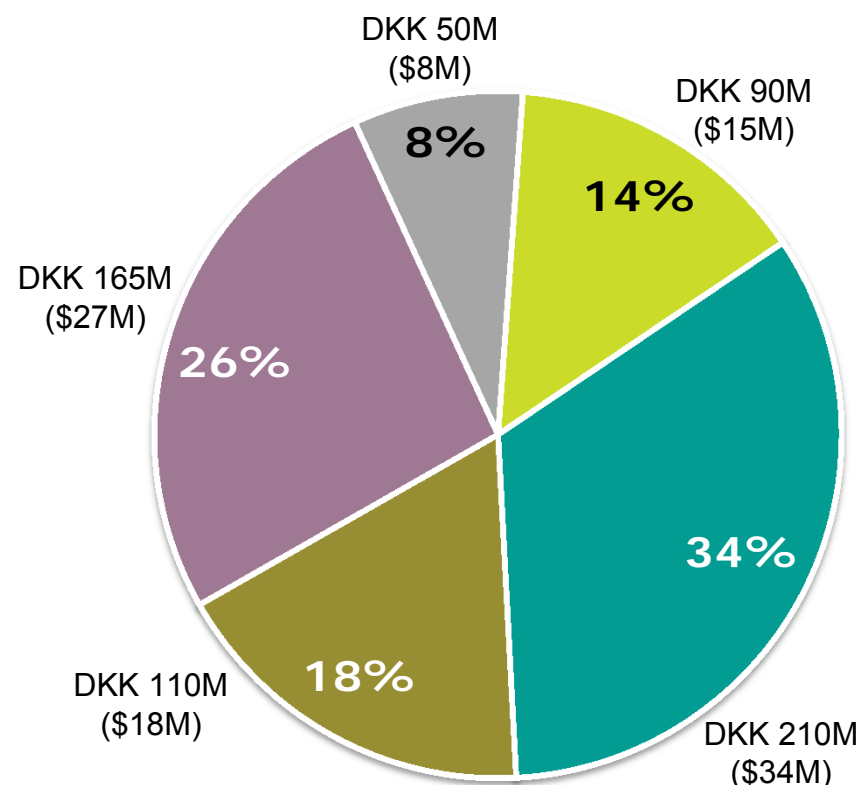




# Well-Capitalized Biotech – 2015 Guidance

Income Statement	DKKM	USDM*
Revenue	650 - 725	106 - 118
Operating expenses	(600) – (650)	(98) – (106)
Reversal of GSK Liability	175	29
Operating income	200 - 275	33 - 45
Cash position at end of year**	2,600 – 2,700	425 – 441
*USD 1.00 = DKK 6.1214		
**Cash, cash equivalents and marketable securities		

## 2015 Expense Base DKK 625M (\$102M)



- Development
- Research
- Salary
- Depreciation & Warrants
- Other

2015 Guidance – March 2, 2015. Cash position increased following employee warrant exercise on March 11, 2015

## 2015 Goals: Maximizing Pipeline Value

Priority	✓	Targeted Milestone
Maximize daratumumab clinical progress	✓	<ul style="list-style-type: none"> <li>» Phase II MM monotherapy data &amp; - if favorable, discuss regulatory next steps with health authorities</li> <li>» Start multiple new MM trials</li> <li>» Start non-MM clinical trial</li> </ul>
Optimize ofatumumab value		<ul style="list-style-type: none"> <li>» File for an additional indication</li> <li>» Phase III relapsed CLL data</li> <li>» Start Phase III sc autoimmune trials</li> </ul>
Strengthen differentiated product pipeline		<ul style="list-style-type: none"> <li>» Phase I HuMax-TF-ADC data</li> <li>» Progress HuMax-AXL-ADC</li> <li>» Progress pre-clinical DuoBody &amp; HexaBody projects</li> </ul>
Broaden partnership portfolio with next generation technologies	✓ ✓	<ul style="list-style-type: none"> <li>» Expand DuoBody &amp; HexaBody collaborations</li> <li>» Progress partnered programs</li> <li>» New IND filings</li> </ul>
Disciplined financial management		<ul style="list-style-type: none"> <li>» Maintain cost base while selectively investing to advance pipeline</li> </ul>

## 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



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# Better Antibodies By Design

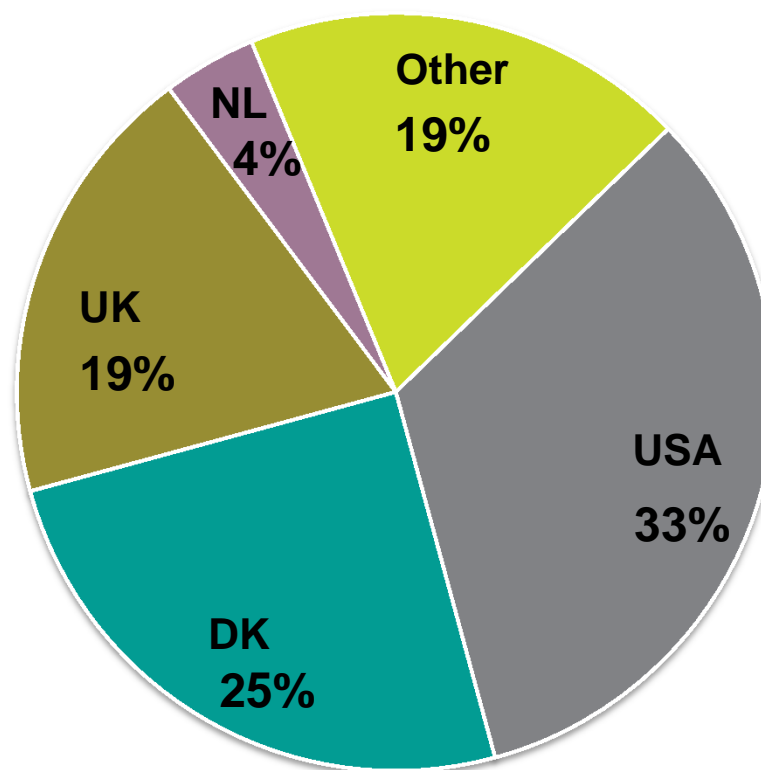
Appendix



# International Shareholder Base

- Major shareholders >5%
  - Johnson & Johnson Devel. Corp.
  - FMR (Fidelity)
  - ATP
- ADR program in USA
  - Ticker: GMXAY
  - Sponsored level 1
  - Ratio: 2 ADR: 1 ordinary share
  - Depositary Deutsche Bank
- Shares outstanding: 58,133,664
  - Total diluted shares: 62,224,388

**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 <sup>1</sup>	Estimated Prevalence	Estimated Global Branded Sales by 2018
CLL	32,000	250,000	\$5.3B
FL	32,000	260,000	\$10.5B <sup>2</sup>
MM	55,000	190,000	\$11.5B
RRMS	26,100 <sup>3</sup>	370,600	\$18.5B <sup>3</sup>

<sup>1</sup>Incidence for MS does not include Japan

<sup>2</sup>Sales data is for NHL, which includes FL

<sup>3</sup>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.

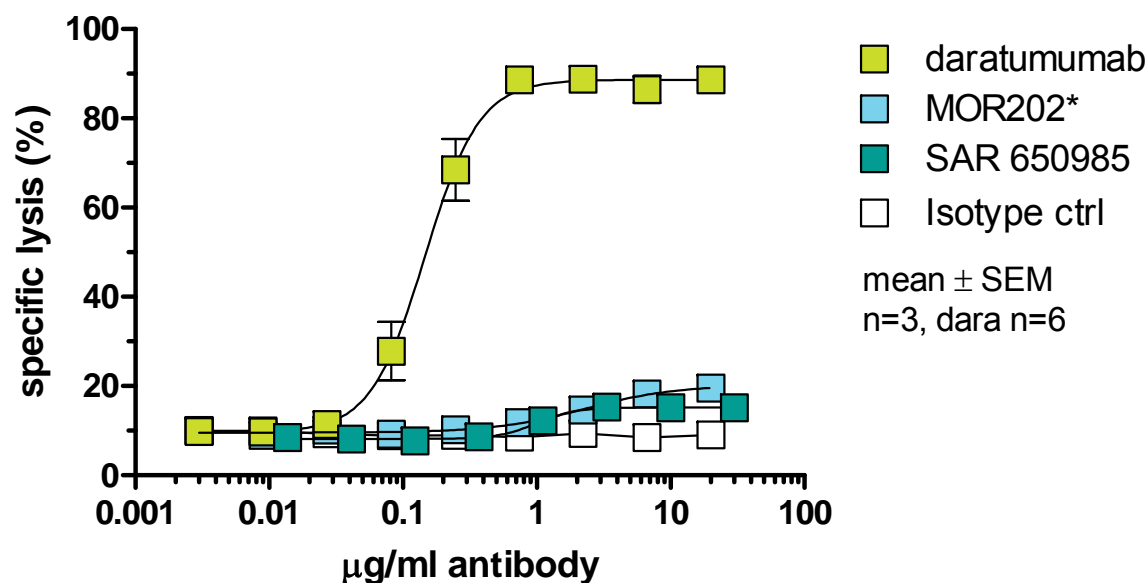
MM 2012 incidence: Datamonitor, "Multiple Myeloma Epidemiology", May 2013; MM prevalence: SEER 2012; company estimates.

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* <sup>1</sup> (MorphoSys)	SAR 650984 <sup>1, 2</sup> (Sanofi-Aventis)
EC <sub>50</sub> (µg/mL)	0.15	2.3	1.0
Maximum killing (%)	90	20	15

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

# CD38 Landscape: Direct In-House Pre-Clinical Comparison with Surrogates of Competitor Antibodies

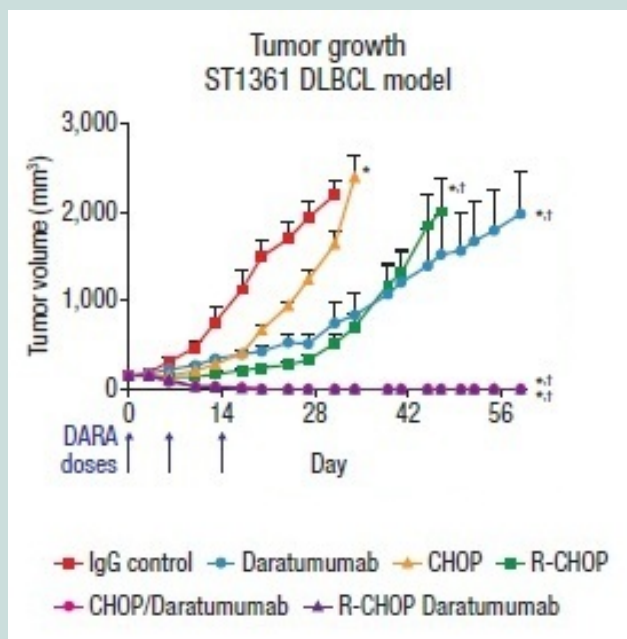
		Daratumumab (Genmab)	MOR202 <sup>1</sup> (MorphoSys)	SAR 650984 <sup>1, 2</sup> (Sanofi-Aventis)	AB79 (Millennium/Takeda)
	Origin	Human	Human	Humanized	Human
	Development phase	Phase III	Phase I/IIa	Phase I/II	Pre-clinical
	Binding <sup>3</sup>	+++	++	+++	+++
Mechanism of Action	ADCC (max lysis) <sup>3</sup>	++	++	++	++
	CDC (max lysis) <sup>3</sup>	+++	+	+	++
	Phagocytosis <sup>3, 4</sup>	+++	++	nd	+++
	Ecto-enzyme function	+	-	+++	+
	Direct PCD <sup>5, 6</sup>	-	-	++	-
	PCD after cross-linking <sup>5, 6</sup>	+++	+++	+++	+++

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

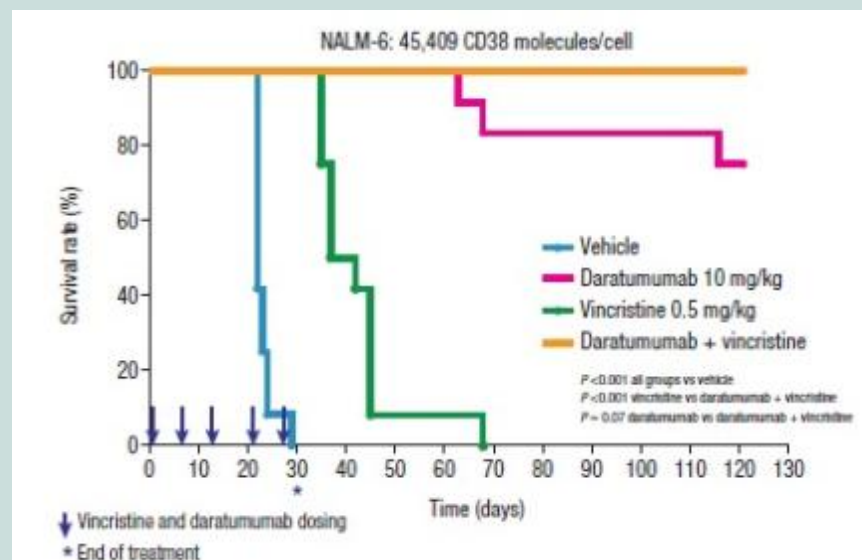
# Daratumumab Beyond Multiple Myeloma

## Pre-clinical Activity in DLBCL & ALL

### Effect daratumumab on tumor growth in patient-derived DLBCL model

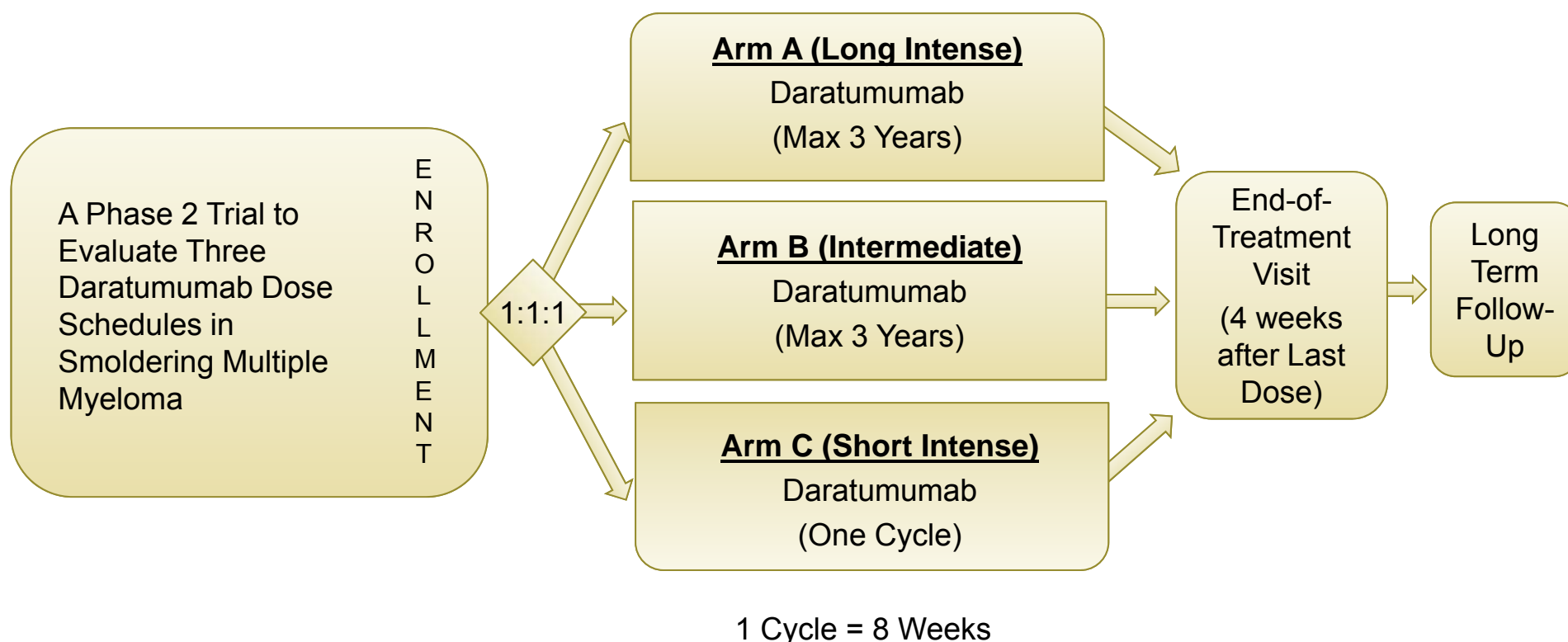


### Effect daratumumab with or without vincristine in ALL xenograft model



# Janssen Daratumumab Clinical Trials in Multiple Myeloma: Smoldering

**NCT 02316106 (SMM2001 Centaurus) Enrolling Soon (1Q15): 120 Est. Pts**

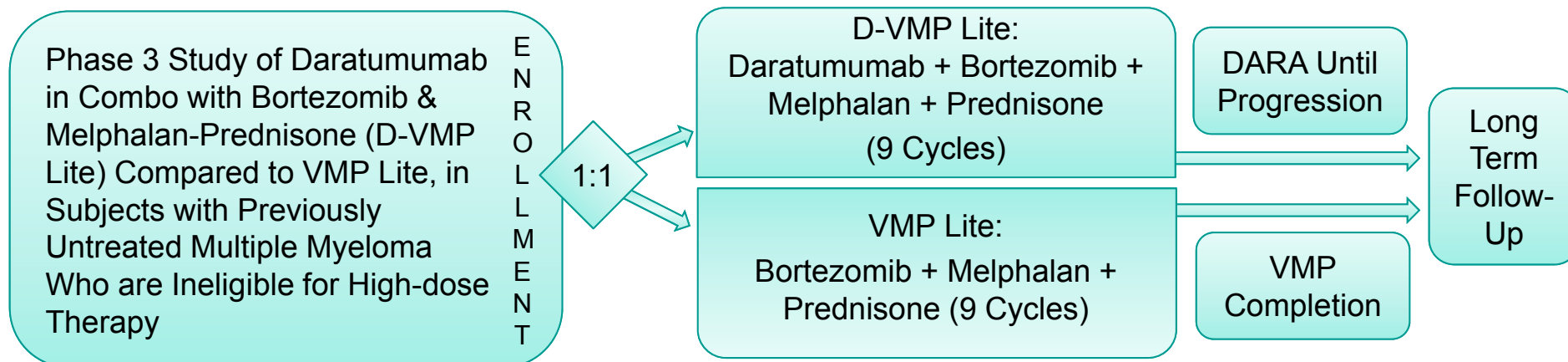


**Primary Endpoints: CR & Time to Progression to Symptomatic Multiple Myeloma**



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

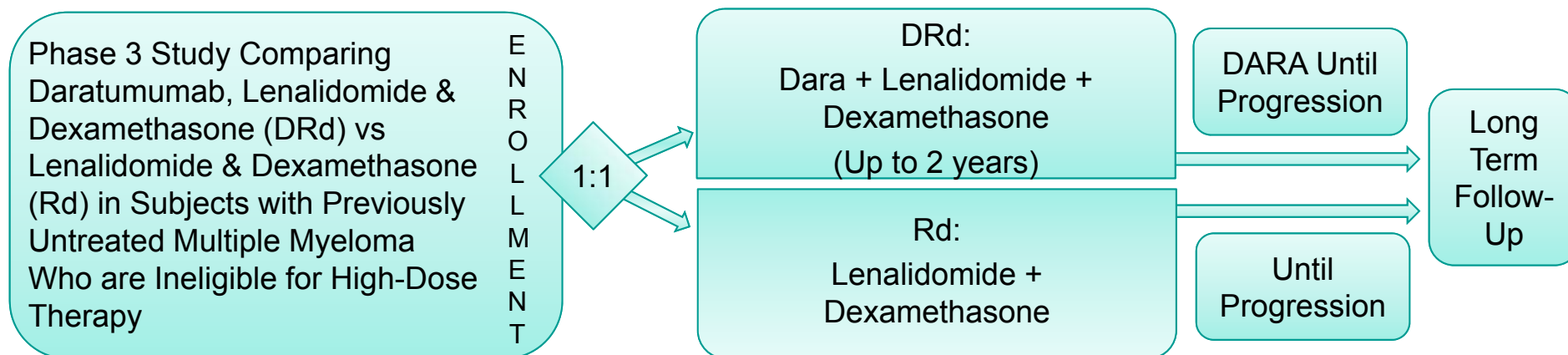
**NCT 02195479 (MMY3007 Alcyone) Enrolling Now: 700 Est. Pts**



Primary Endpoint: PFS

1 Cycle = 42 Days

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

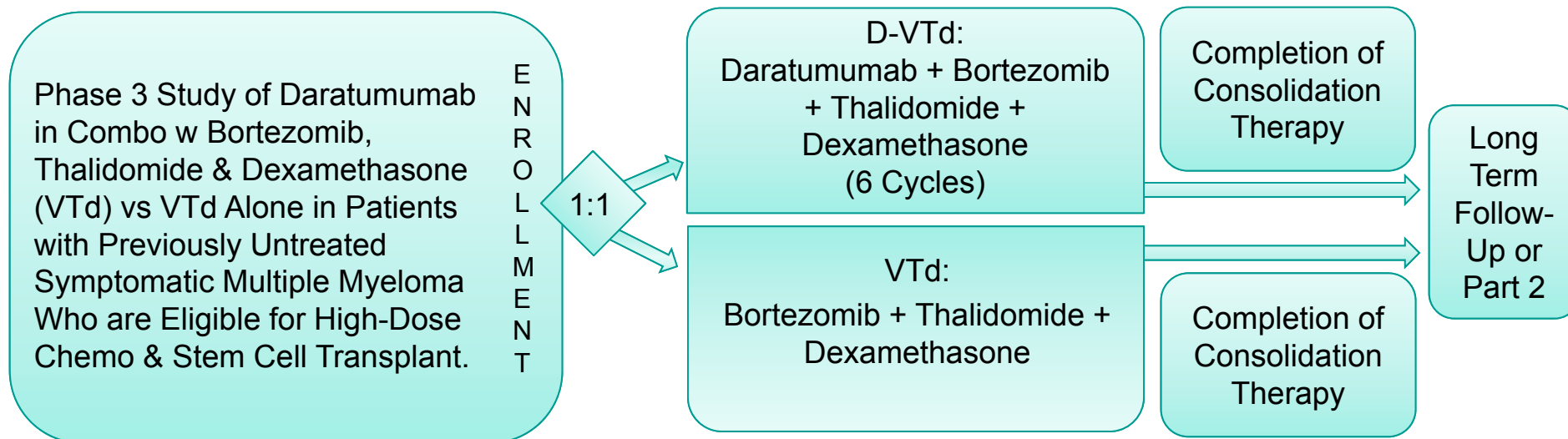


Primary Endpoint: PFS

1 Cycle = 28 Days

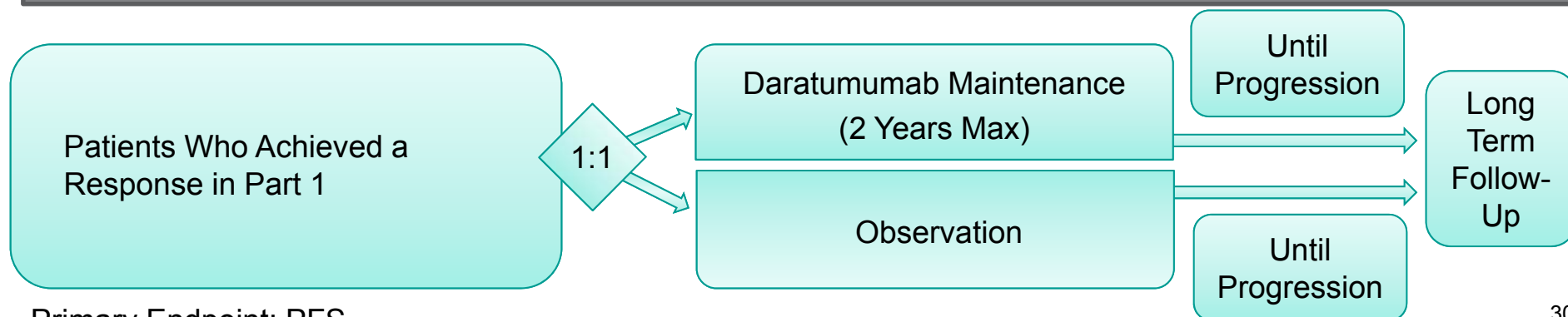
# Janssen Daratumumab Clinical Trials in Multiple Myeloma: Frontline Transplant

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



Primary Endpoint: sCR

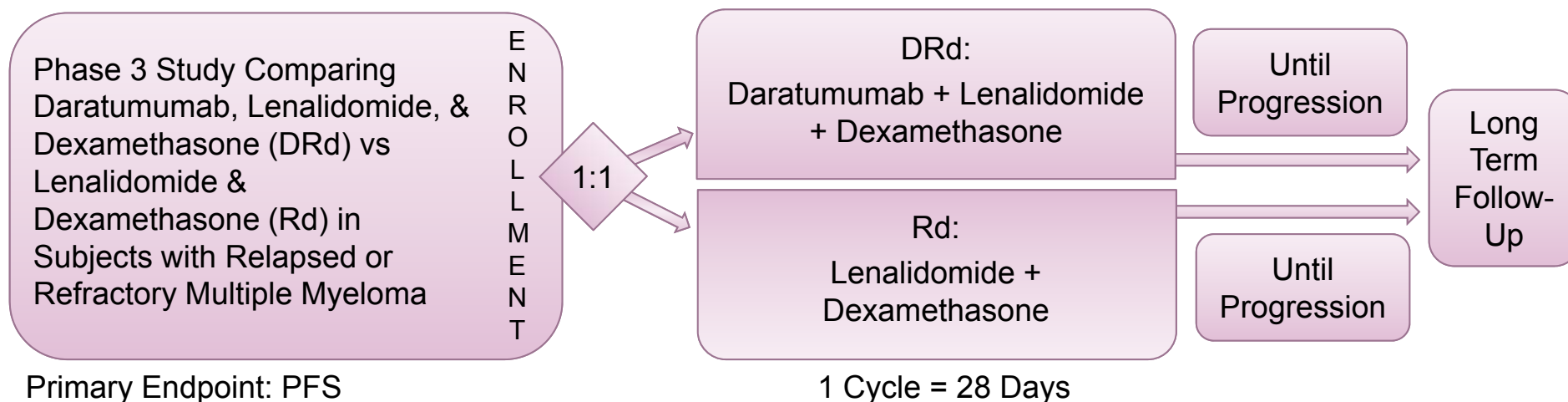
## MMY3006 Part 2



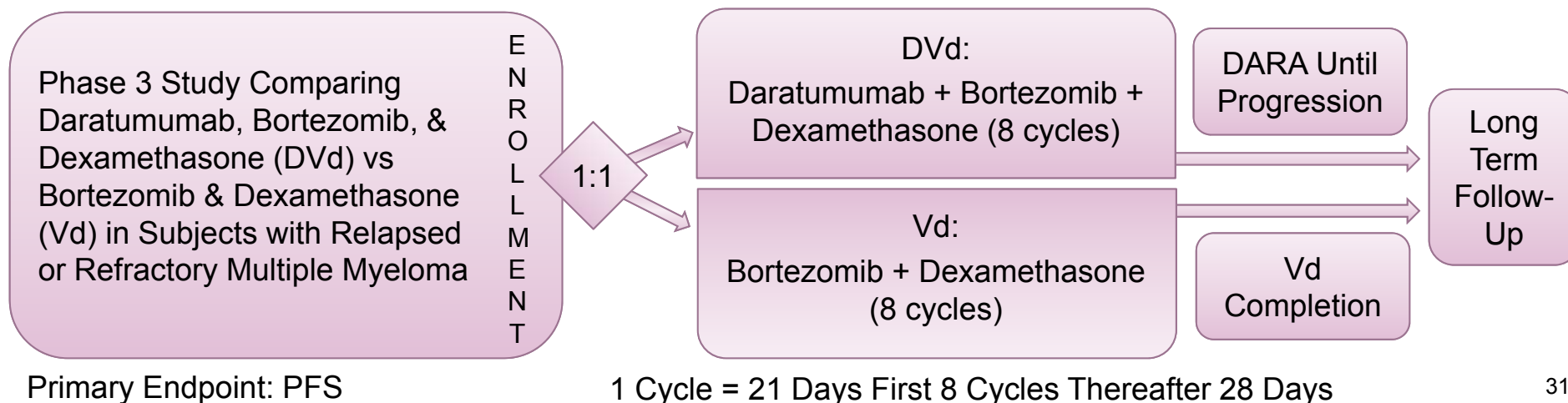
Primary Endpoint: PFS

# Janssen Daratumumab Clinical Trials in Multiple Myeloma: Relapsed or Refractory

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



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



## 2014 Ofatumumab Data

### Ofatumumab Maintenance Prolongs PFS in Relapsed CLL

#### Population

- Pts in CR or PR after 2<sup>nd</sup> & 3<sup>rd</sup> line treatment for CLL
- Ofatumumab vs Observation

#### Key Safety Data

- Grade 3 & 4 AEs
  - Ofatumumab 25%
  - Observation 17%

#### Key Efficacy Data

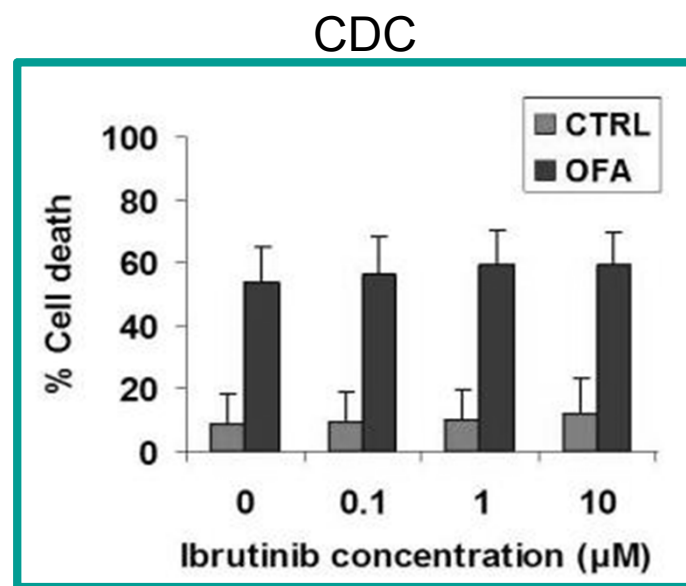
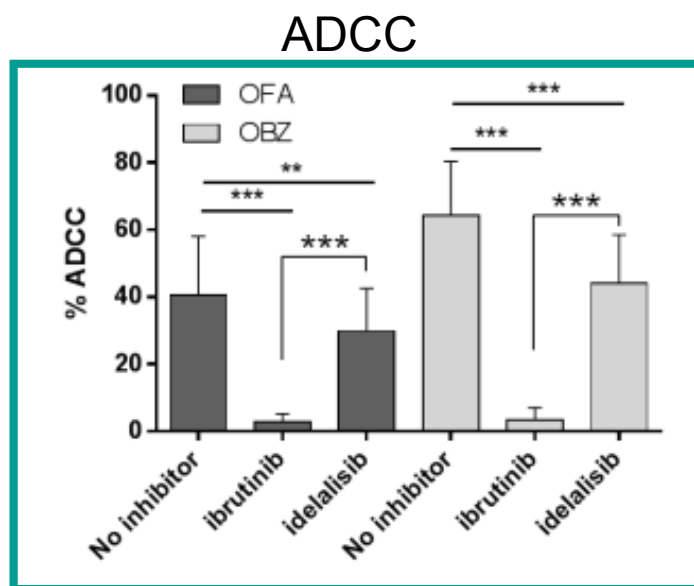
- PFS
  - Ofatumumab 28.6 months
  - Observation 15.2 months

#### Conclusion

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

# Ofatumumab

## Potential to Combine with Tyrosine Kinase Inhibitors



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

Ofatumumab most active CDC killing compared to other CD20 mAb

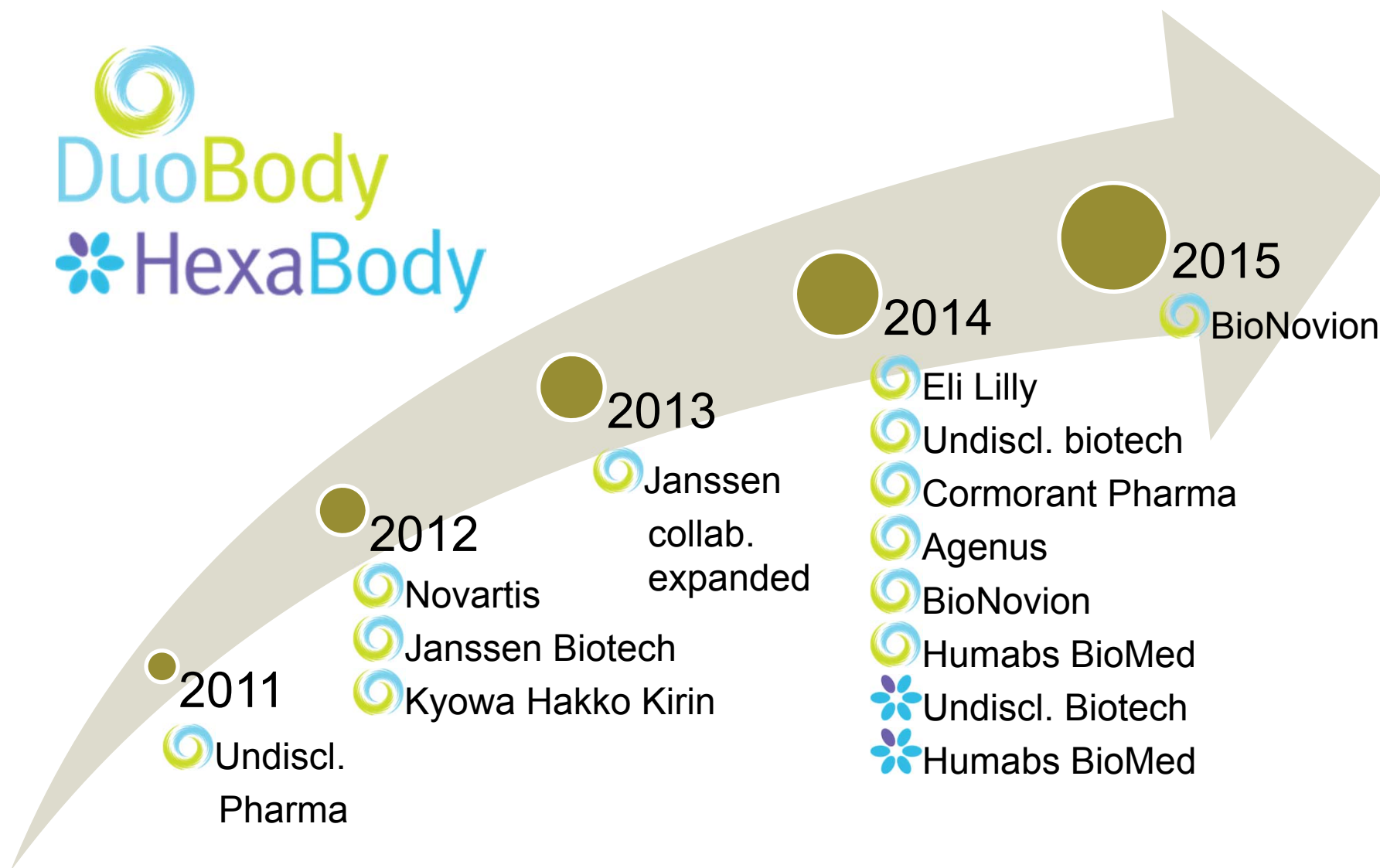
Ibrutinib - ofatumumab combination highly active in CLL, ISS study at ASCO 2014

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



# Immuno-Oncology

## Turning Cancer into a Chronic Condition

### Hottest Area in Oncology

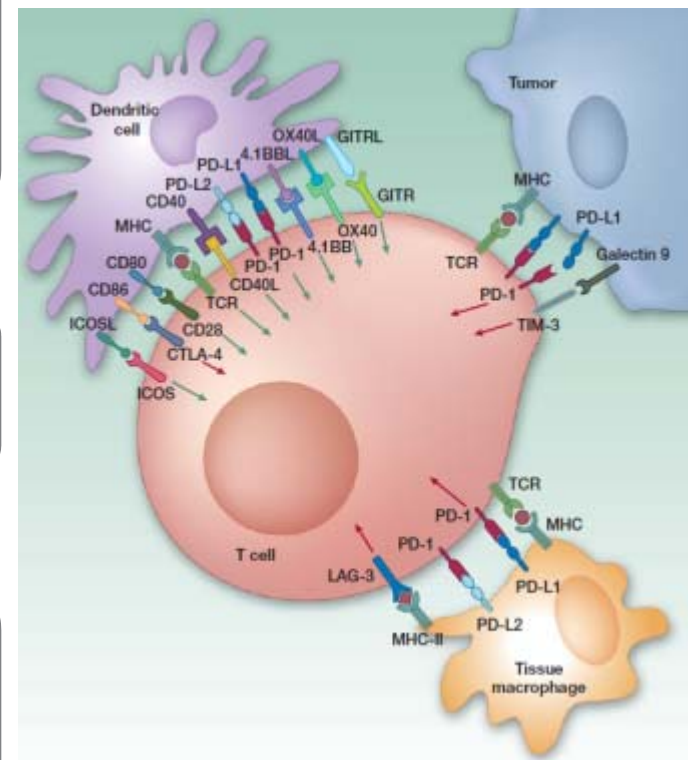
- Long duration of response
- Potential game changer
  - \$35B market

### 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





*Innovating  
antibodies,  
improving lives*

# Better Antibodies By Design

