Better Antibodies By Design

Investor Presentation
April 2016

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.

Transforming Cancer Treatment

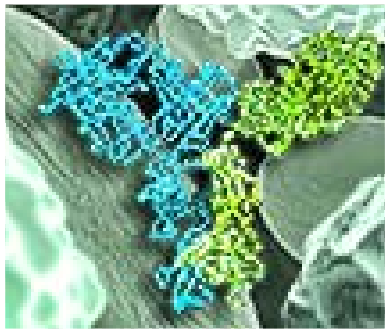
Focus

- Differentiated antibodies
- Treatment of cancer

Products

- DARZALEX™ approved by FDA
- Arzerra® on the market
- 7 other antibodies in clinical studies
- Innovative pre-clinical pipeline

Technologies



- DuoBody® platform
- HexaBody® technology

Partnerships

- Leverage our technologies
- Strategic collaborations with pharma & biotech

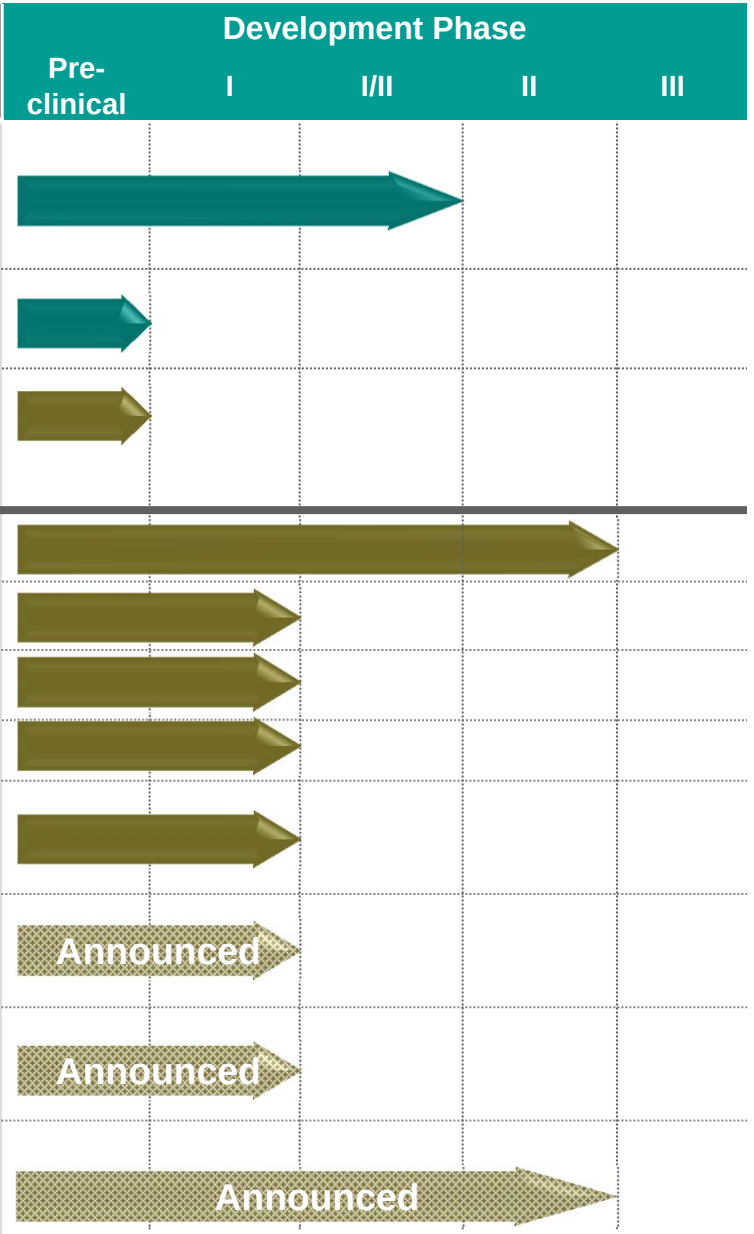
Innovative Clinical & Pre-clinical Pipeline

Further Development for Marketed Products

Product	Disease Indications	Development Phase: Pre-clinical / I / II / III
Daratumumab Target: CD38 Partner: Janssen	Multiple myeloma (MM)	
	Non-Hodgkin's lymphoma (NHL)	
Ofatumumab Target: CD20 Indication: Cancer Partner: Novartis	Chronic lymphocytic leukemia (CLL)	
	Follicular lymphoma (FL)	
Ofatumumab Target: CD20 Indication: AI Partner: Novartis	Relapsing multiple sclerosis (RMS) (SubQ)	Announced

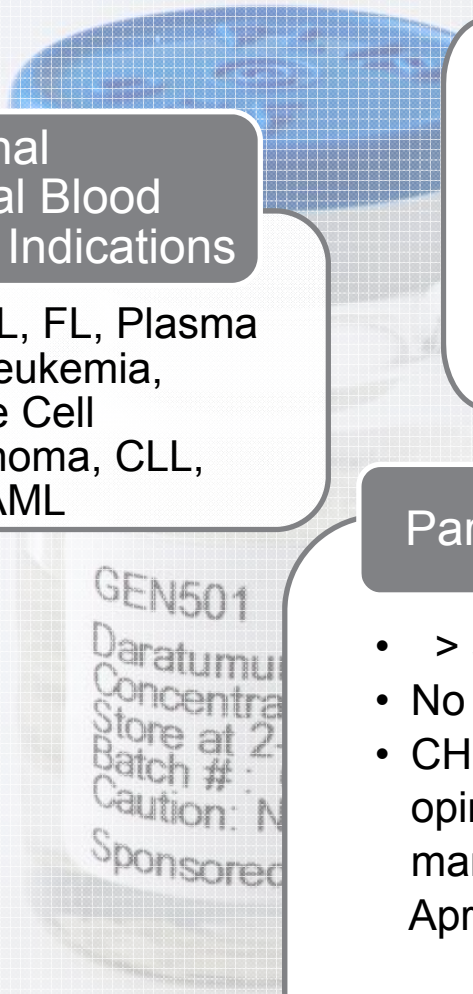
Innovative Clinical & Pre-clinical Pipeline - Continued

Product	Disease Indications
Tisotumab vedotin Target: TF Partner: Seattle Genetics	Solid Cancers
➢ **25 Active Pre-clin. progr. incl. HuMax-AXL-ADC, HexaBody DR5/DR5, DuoBody CD3xCD20**	Proprietary programs: HuMab, HuMab-ADC, DuoBody, DuoBody-ADC & HexaBody
	Partnered programs: HuMab, DuoBody & HexaBody
Teprotumumab Target: IGF-1R Partner: River Vision	Graves' orbitopathy
	Diabetic macular edema
HuMax-TAC-ADC Target: CD25 Partner: ADCT	Lymphoma
	Acute myeloid leukemia (AML)
HuMax-IL8 Target: IL-8 Partner: Cormorant	Metastatic solid tumors
JNJ-61186372 Targets: EGFR,cMET Partner: Janssen	Non-small-cell lung cancer (NSCLC)
JNJ-63709178 Targets: CD3,CD123 Partner: Janssen	Acute Myeloid Leukemia (AML)
AMG 714 Target: IL-15 Partner: Celimmune	Celiac Disease



Daratumumab (Marketed as DARZALEX™)

Approved in US as Fourth Line Treatment for MM Patients



First-in-Class Fully Human Antibody

- Targets CD38 - six ways of attacking cancer cells
- MM & other blood cancers, and solid tumors
- Blockbuster potential
- Broad & expansive development in MM

Additional Potential Blood Cancer Indications

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

Partner: Janssen Biotech

- > $1.1B potential deal value, + double-digit royalties
- No development / commercialization costs for Genmab
- CHMP issued positive opinion for conditional marketing authorization in EU, April 2016

DARZALEX®
(daratumumab)
injection for intravenous infusion
100 mg/5 mL, 400 mg/20 mL

Expansive Daratumumab Clinical Development

Indication	Disease Stage	Therapy	No. Pts*	Development Phase
Multiple Myeloma**	High Risk Smoldering	Mono	120	SMM2001 (Centaurus)
	Front line (transplant & non-transplant)	Dara + VMP	700	MMY3007 (Alcyone)
		Dara + Revlimid + Dex	730	MMY3008 (Maia)
		Dara + VTD	1,080	MMY3006 (Cassiopeia)
		Multi combo Study (6 arms)	190	MMY1001 (Equuleus)
	Relapsed or Refractory	Dara + Revlimid + Dex	45	GEN503
		Dara + Revlimid + Dex	570	MMY3003 (Pollux)
		Dara + Velcade + Dex	480	MMY3004 (Castor)
		Dara +Velcade +Dex, Japan	6	MMY1005
		Subcutaneous	128	MMY1004
		Dara + atezolizumab	130	Announced
NHL (DLBCL / MCL / FL)	Relapsed or Refractory	Mono	210	LYM2001 (Carina)
Solid Tumor	TBC	Dara + atezolizumab	100	Announced
		Total:	**>4,500**	

Development Phase: I | I/II | II | III

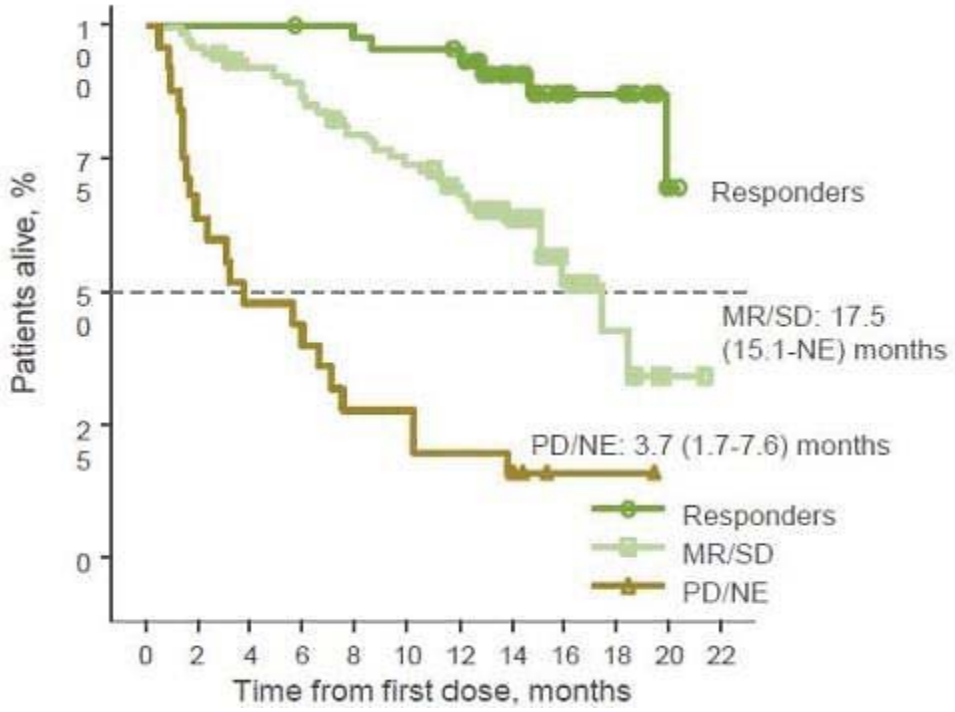
*Approx. no. based on clinicaltrials.gov **Maintenance integrated into some study protocols

VMP = bortezomib & melphalan-prednisone VTD = bortezomib, thalidomide & dexamethasone

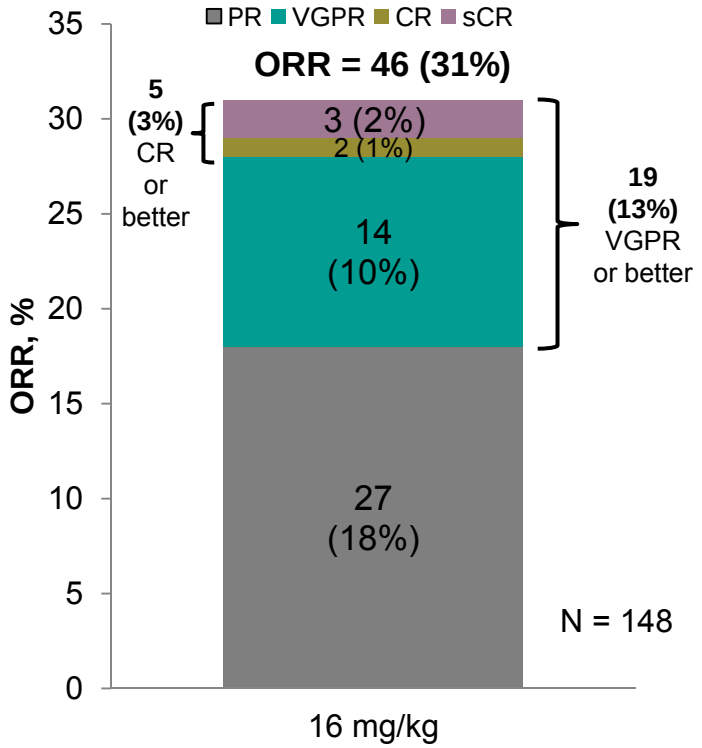
Efficacy in Monotherapy

Combined Analysis of Monotherapy Studies

Overall Survival[1,2]



Overall Response Rate[2]



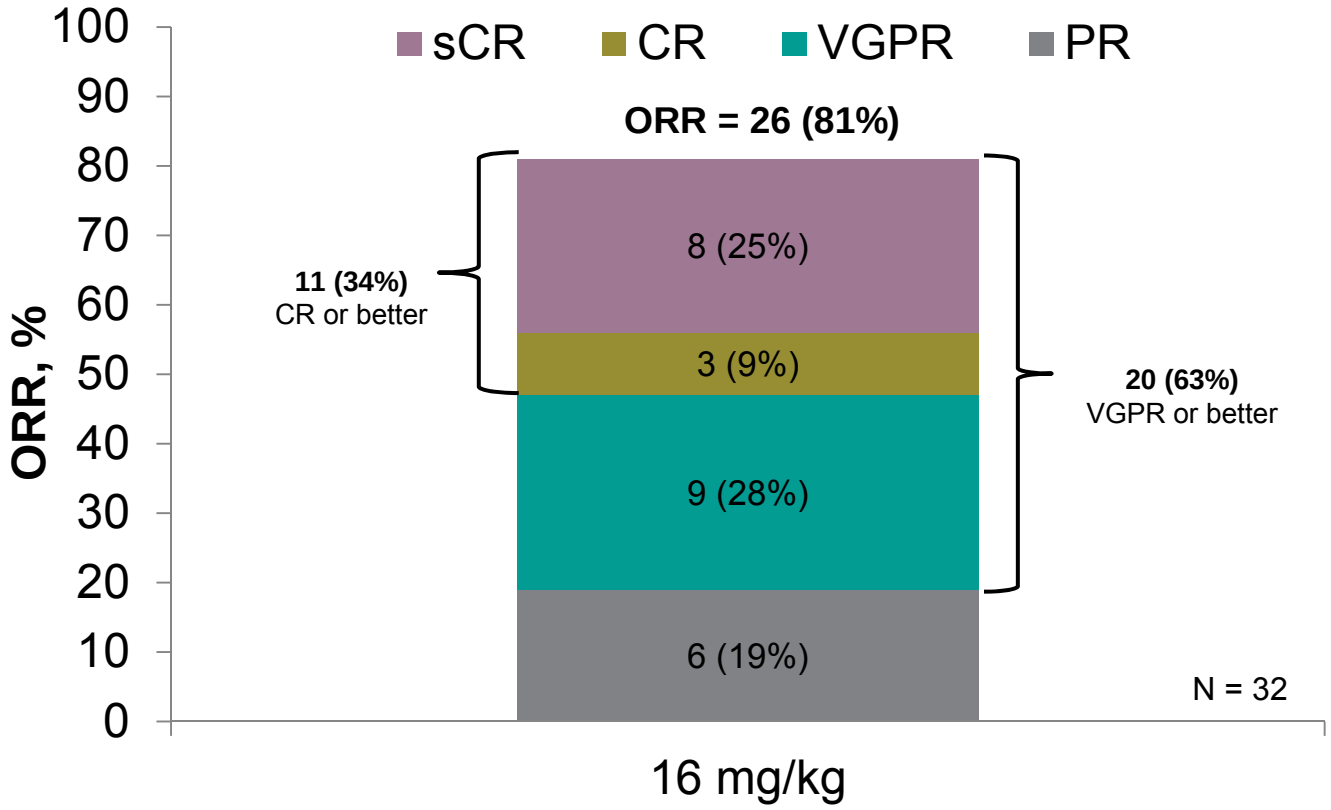
ORR = 31%

ORR was consistent in subgroups including age, number of prior lines of therapy, refractory status, or renal function

[1]Janssen Hematologic Malignancy Portfolio Update
[2]Data presented at ASH 2015
sCR, stringent complete response; CR, complete response; VGPR, very good partial response; PR, partial response

Combination Treatments In Development

Daratumumab + Lenalidomide + Dexamethasone



ORR = 81%

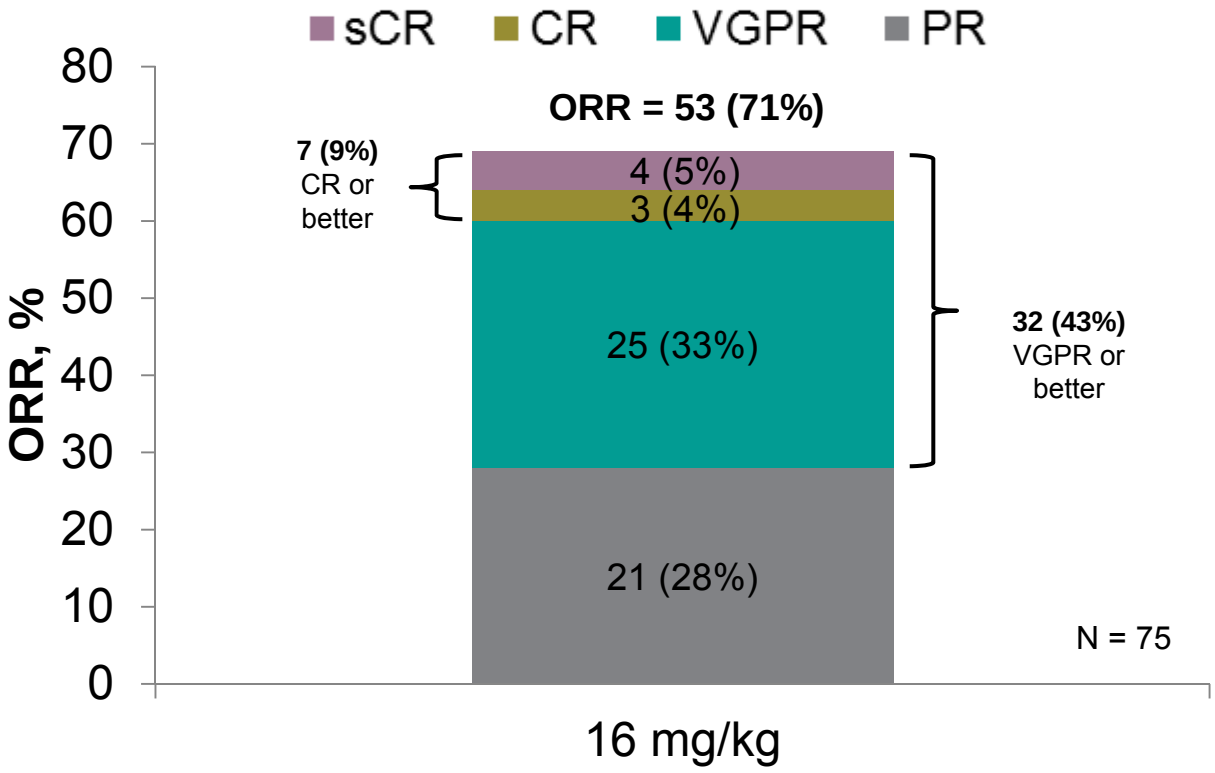
Clinical benefit rate (ORR + minimal response) = 88%

sCR, stringent complete response; CR, complete response; VGPR, very good partial response; PR, partial response

Data presented at ASH 2015

Combination Treatments In Development

Daratumumab + Pomalidomide+ Dexamethasone



ORR = 71%

ORR in double-refractory patients = 67%

Clinical benefit rate (ORR + minimal response) = 73%

sCR, stringent complete response; CR, complete response; VGPR, very good partial response; PR, partial response
Data presented at ASH 2015

Arzerra® (ofatumumab)

Marketed Globally

- Human antibody targeting CD20 on cancerous B-cells

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
  - US recurrent and progressive CLL extended treatment
- Phase III trials in CLL & FL
- Partnered with Novartis
- EU reg. subm. for maintenance therapy relapsed CLL
- EU & US reg. subm. in combo w/ fludarabine & cyclophosphamide for relapsed CLL

Arzerra (ofatumumab)
Injection, for intravenous infusion
20 mg/mL

Autoimmune diseases (unapproved)

- Relapsing MS Ph IIIs announced
- Novartis acquired AI rights from GSK in Dec. 2015

*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. Arzerra is approved for extended treatment of patients who are in complete or partial response after at least two lines of therapy for recurrent or progressive CLL.

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.

Tisotumab vedotin: Next Generation Therapeutic

Phase I/II & Phase I studies in Patients with Solid Tumors

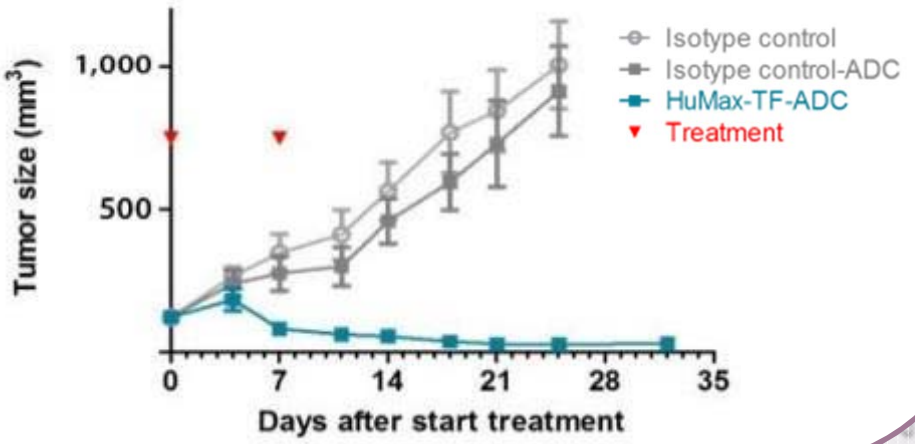
8 Tumors

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

Fully Human antibody-drug conjugate

- Targets Tissue Factor (TF)
- Potent anti-tumor activity in pre-clinical models for multiple solid cancers
- First-in-human Phase I/II trial ongoing
- Phase I/II dose escalation in solid tumors finalized
  - Clinically relevant dose of 2.0 mg/kg identified as MTD
  - Preliminary evidence of efficacy encouraging
- Collaboration: Seattle Genetics opt-in (after Ph I/II)

Pre-clinical Cervical Cancer Model

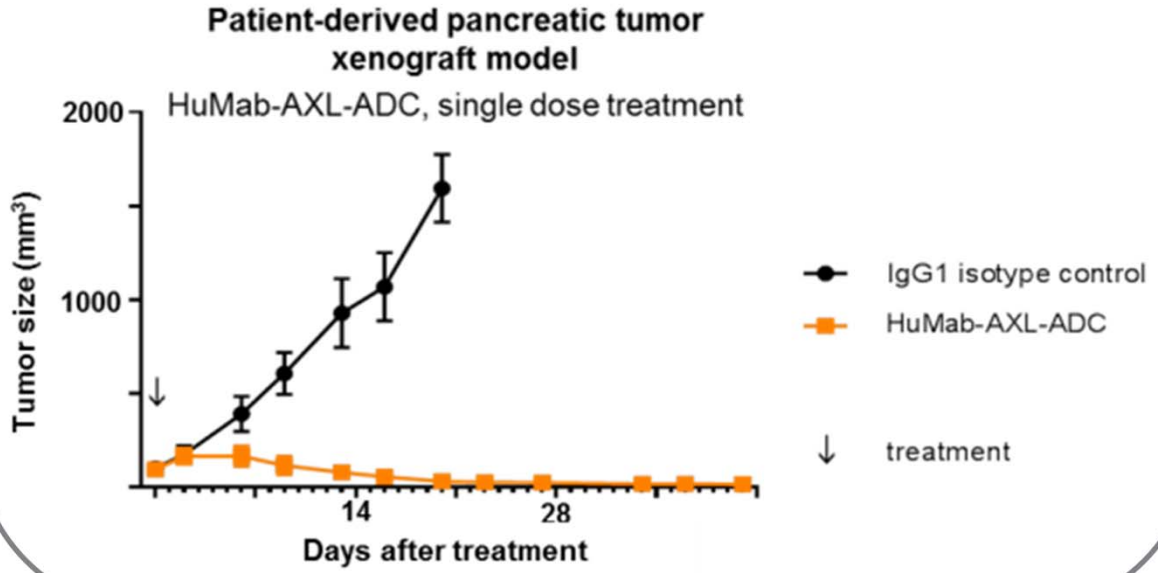


Next in the Clinic: HuMax-AXL-ADC

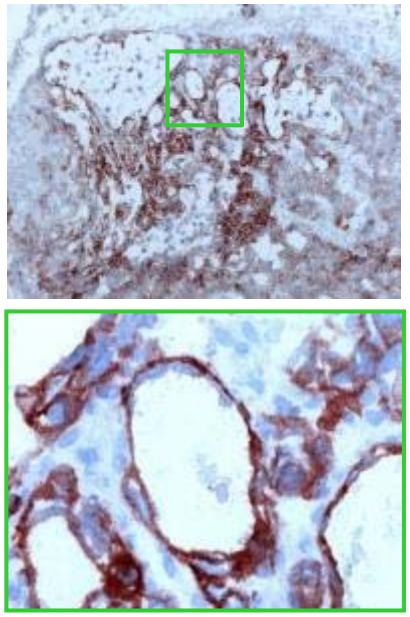
Efficacy in *in vivo* Tumor Model

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

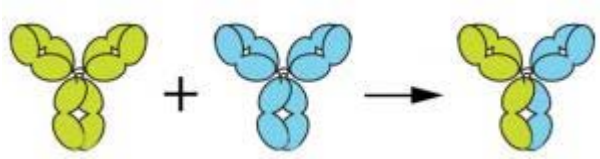


AXL antibody

Cutting Edge Proprietary Technologies

Creating Truly Differentiated Products

DuoBody



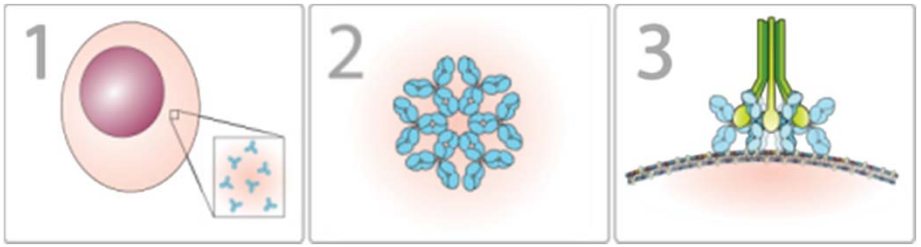
DuoBody

- Efficient & versatile bispecific Ab platform
- Applicable to any antibody from any platform
- Regular IgG format
- Large scale production validated
- No developability liabilities
- Robotized bispecific library generation
- 9 ongoing collaborations incl. with Novartis, Novo Nordisk & Janssen Biotech

HexaBody

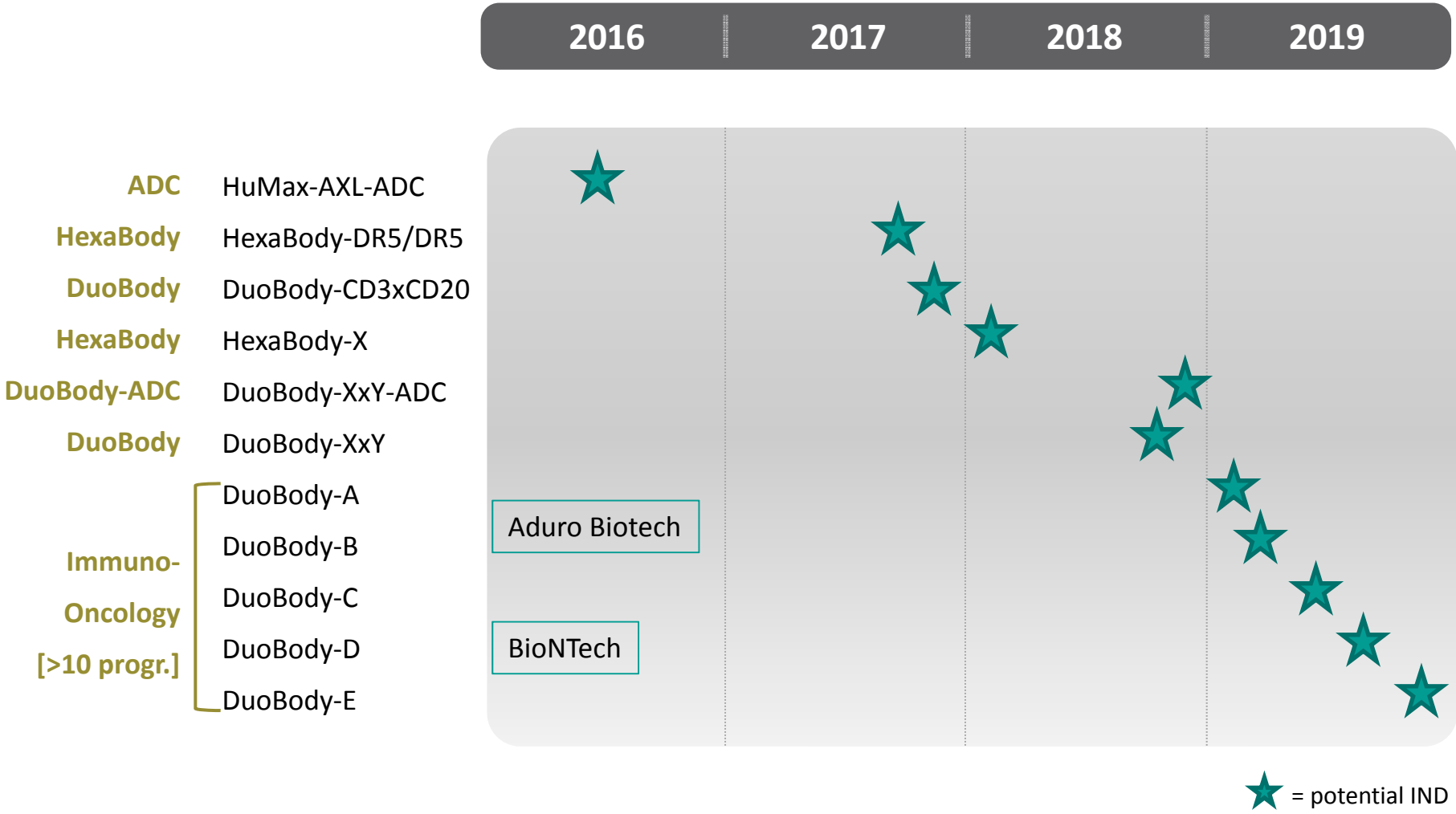
- Robust effector function enhanced Ab
- Enables antibodies to readily form clusters of 6 (hexamers)
- Induces & enhances target cell killing after binding (CDC and apoptosis)
- Creates innovative products in cancer & infectious diseases
- Collaborations with Gilead, Humabs BioMed & Agenus

HexaBody



Genmab Proprietary Knock-Your-Socks-Off Pipeline

Efficient IND Engine



Pre-clinical pipeline targeting at least 4 leapfrog INDs in next 4 years

HexaBody-DR5/DR5

Targeting DR5 for Cancer Therapy

DR5 (death receptor 5)

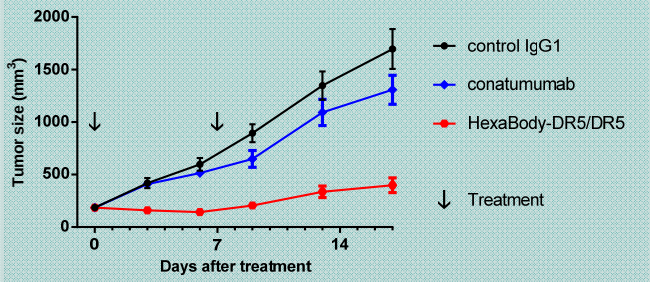
Cell surface receptor that mediates programmed cell death

In normal physiology, binding of TRAIL ligand results in DR5 clustering & cell death

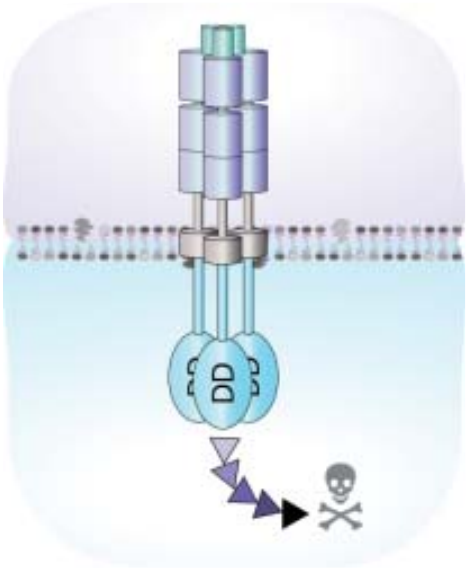
Targeting DR5 for treatment of cancer

- Agonistic DR5 mAb induce apoptosis after crosslinking
- Agonistic DR5 antibodies have shown limited anti-tumor activity in the clinic

Mouse xenograft model



- Need for increased therapeutic potency
- Use HexaBody technology to induce clustering & activation of DR5 molecules, without a need for additional crosslinking
- Combination of two HexaBody molecules against two non-overlapping DR5 epitopes induces maximal cell death

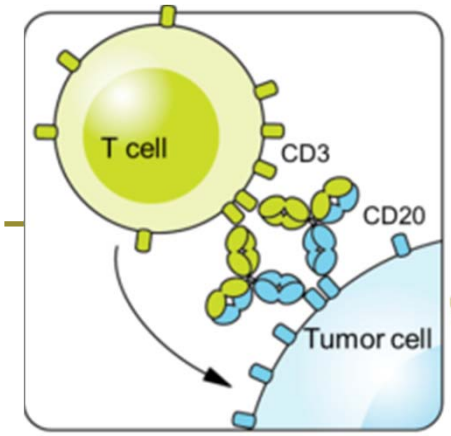


DR5 activation induces cell death

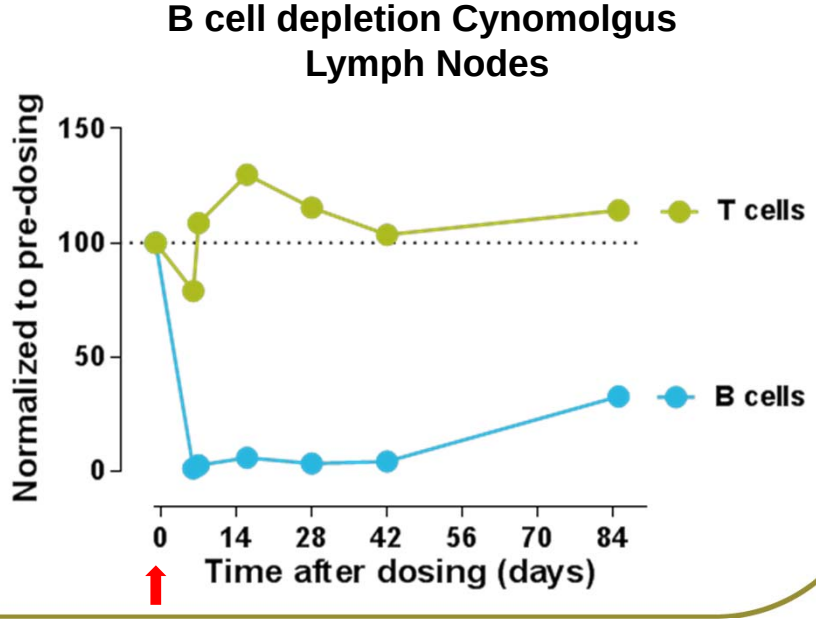
DuoBody CD3xCD20

Key Characteristics

Humanized IgG1 bispecific antibody



- DuoBody platform
- Regular half life
- Non-activating Fc-domain
- Potently activates T cells to kill $CD20^+$ tumor cells
- Cynomolgus CD3 & CD20 x-reactive
  - Potent Cynomolgus B cell depletion (peripheral blood, lymph nodes)
- 2017 IND candidate



Creating Value Through Different Types of Partnerships

Product Partnerships

- Daratumumab: Janssen Biotech
- Ofatumumab: Novartis
- Tisotumab vedotin: Seattle Genetics [opt-in right]
- HuMax-TAC-ADC: ADC Therapeutics
- HuMax-IL8: Cormorant Pharmaceuticals

Technology Partnerships

- DuoBody
  - Commercial: Novartis, Janssen Biot., Novo Nordisk, Aduro Biotech, BioNTech
  - Research: Gilead, Agenus, Humabs BioMed, Pierre Fabre
- HexaBody: Gilead, Humabs BioMed, Agenus
- Other: Medarex, Seattle Genetics, OMT*, MAB Discovery

Discovery Partnerships

- Roche, Lundbeck, River Vision (teprotumumab)

*Dec 2015 Announced that Ligand would acquire OMT, Inc.

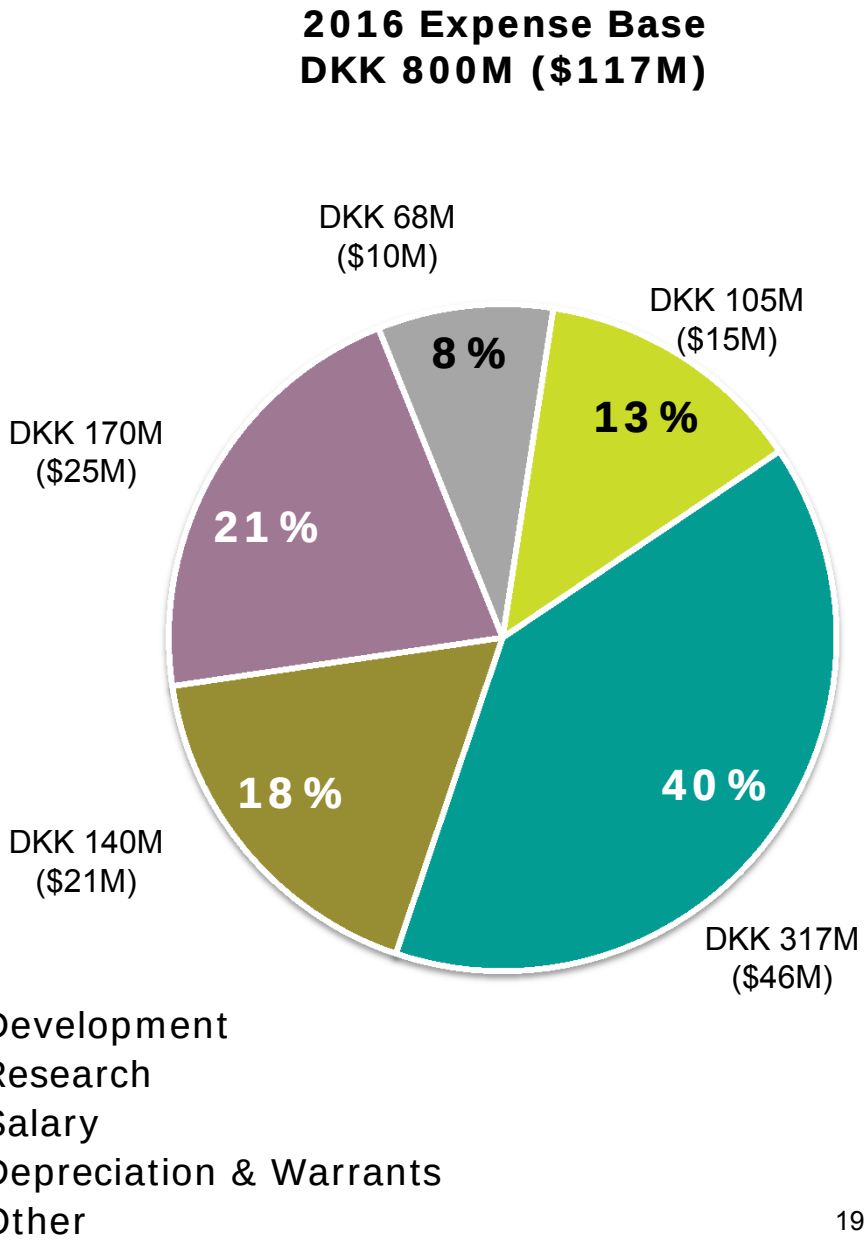
Well-Capitalized Biotech – 2016 Guidance

Income Statement	DKKM	USDM*
Revenue	825 - 875	121 - 128
Operating expenses	(775) – (825)	(113) – (121)
Operating income	25 - 75	4 - 11
Cash position at end of year**	3,300 – 3,400	483 - 498

*USD 1.00 = DKK 6.83 (December 31, 2015)
**Cash, cash equivalents and marketable securities

2016 Guidance – February 17, 2016

- Largest increase in expenses (over 2015) is in development
  - Driven by additional investment in pipeline products
  - Total 2016 spend on 4 key products is ~DKK 260M or 1/3 of total expense
- Additional investment in pre-clinical pipeline



2016 Goals: Maximizing Product Portfolio Value

Priority	✓	Targeted Milestone
Maximize daratumumab progress		» Launch DARZALEX™ in US and other approved territories
	✓	» CHMP decision on monotherapy application
		» Phase III multiple myeloma (MM) interim efficacy analysis in relapsed / refractory MM settings [Pollux and Castor trials]
		» File for label in relapsed / refractory settings if results of interim analyses are favorable
		» Start multiple clinical trials in MM and non-MM indications
		» Report initial clinical data non-MM indications
Optimize ofatumumab value		» Start Phase III sc autoimmune trials
	✓	» Regulatory decision for CLL maintenance
	✓	» File for label in relapsed CLL
		» Phase III refractory follicular lymphoma (FL) interim efficacy data
Strengthen differentiated product pipeline		» Phase I tisotumab vedotin additional data
		» IND for HuMax-AXL-ADC and start clinical trial
		» Progress HexaBody-DR5/DR5 program
		» Progress pre-clinical DuoBody & HexaBody projects
Broaden partnership portfolio with next generation technologies		» Sign new / expanded DuoBody & HexaBody collaborations
		» Progress partnered programs
	✓	» New IND filings
Disciplined financial management		» Selectively invest to progress and broaden differentiated product pipeline

On Track to a Sustainably Profitable Future

Two products on the market
- DARZALEX & Arzerra

Robust differentiated product pipeline
- 9 products in clinical development
- Innovative pre-clinical pipeline

Proprietary technologies
- DuoBody & HexaBody

Partnerships → Product ownership
- Well capitalized

Positioned for success
- For patients & shareholders

Better Antibodies By Design

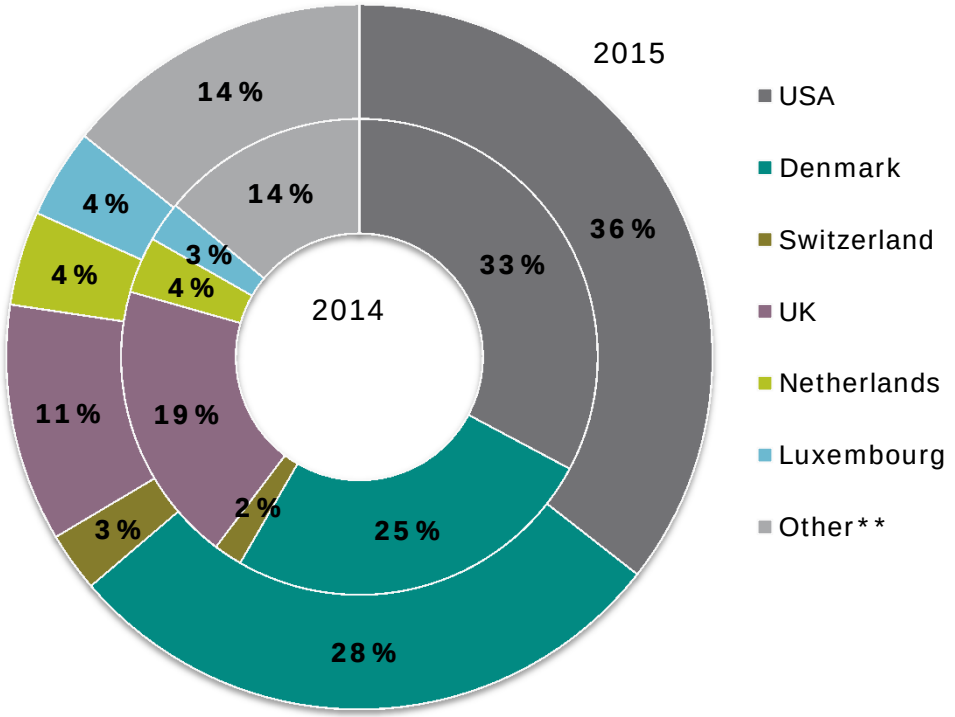
Appendix

Genmab

Publicly Listed Company with Large Free Float

- Large cap, listed on Nasdaq Copenhagen, Denmark & ADR in US
- Major shareholder, holding >5%
  - FMR (Fidelity)
- Rest of shares held across world incl.
  - USA
  - UK
  - DK
  - NL
- Approx. Market Cap
  - DKK 55 bn
  - USD 8.5 bn
- Approx. shares outstanding: 59.7M
- Warrants outstanding: 2.7M (5%)
- Approx. diluted shares: 62.4M

Geographical Shareholder Distribution*
As of December 31, 2015



* Based on figures from the internal shareholder register per December 31, 2015 and December 31, 2014
** "Other" includes shares held in other countries and shares not held in nominee accounts, including OTC traded shares

Multiple Myeloma Patient Populations

3rd most common blood cancer in the US[1]

5-year survival rate of 46.6% in the US[2]

Approx. 26,850 people newly diagnosed with MM in the US[3]

Approx 11,240 would die from disease in the US in 2015[3]

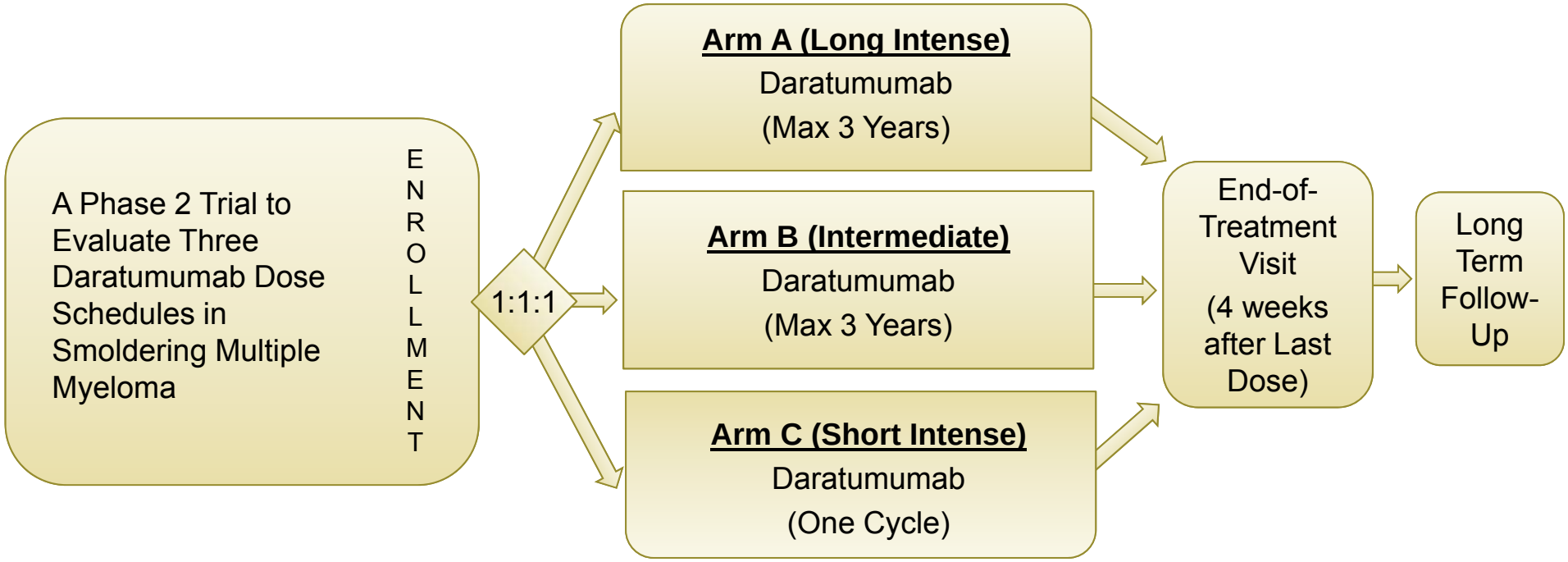
WW ~124,225 diagnosed & 87,084 would die in 2015[4]

Global market expected to increase from $8.9bn in 2014 to $22.4bn by 2023[5]

[1] National Cancer Institute. "A Snapshot of Myeloma." Available at www.cancer.gov/research/progress/snapshots/myeloma. Accessed September 2015.
[2] Surveillance, Epidemiology and End Results Program (SEER). SEER Stat Fact Sheets: Myeloma. Available at http://seer.cancer.gov/statfacts/html/mulmy.html. Accessed May 11, 2015
[3] American Cancer Society. "What are the key statistics about multiple myeloma?" http://www.cancer.org/cancer/multiplemyeloma/detailedguide/multiple-myeloma-key-statistics. Accessed September 2015.
[4] GLOBOCAN 2012: Estimated Cancer Incidence, Mortality and Prevalence Worldwide: Number of New Cancers in 2015. Available at: http://globocan.iarc.fr/old/burden.asp?selection_pop=224900&Text-p=World&selection_cancer=17270&Text-c=Multiple+myeloma&pYear=3&type=0&window=1&submit=%C2%A0Execute. Accessed September 2015.
[5] GlobalData. PharmaPoint: Multiple Myeloma - Global Drug Forecast and Market Analysis to 2023. Published November 2015.

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Smoldering

NCT 02316106 (SMM2001 Centaurus) Enrolling Now: 120 Est. Pts

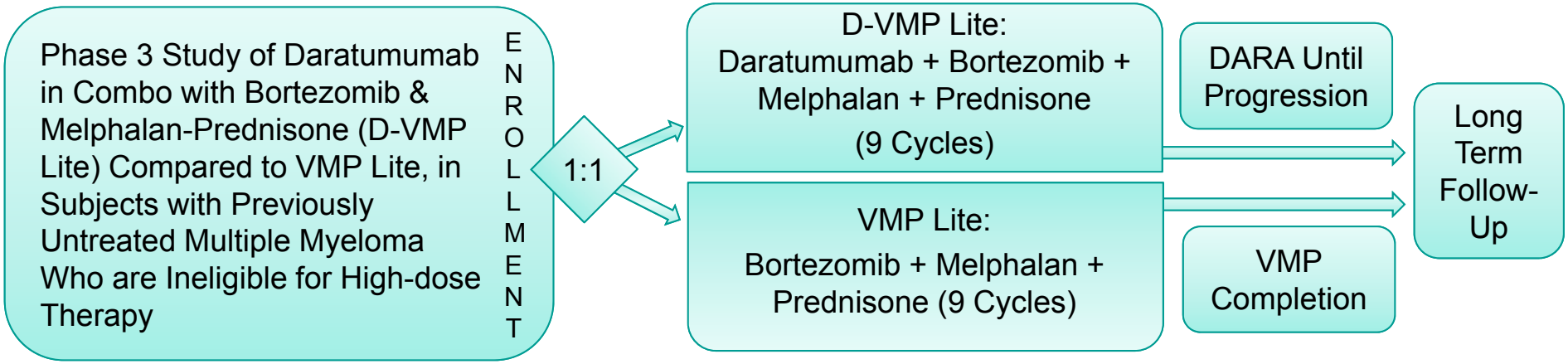


1 Cycle = 8 Weeks

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

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

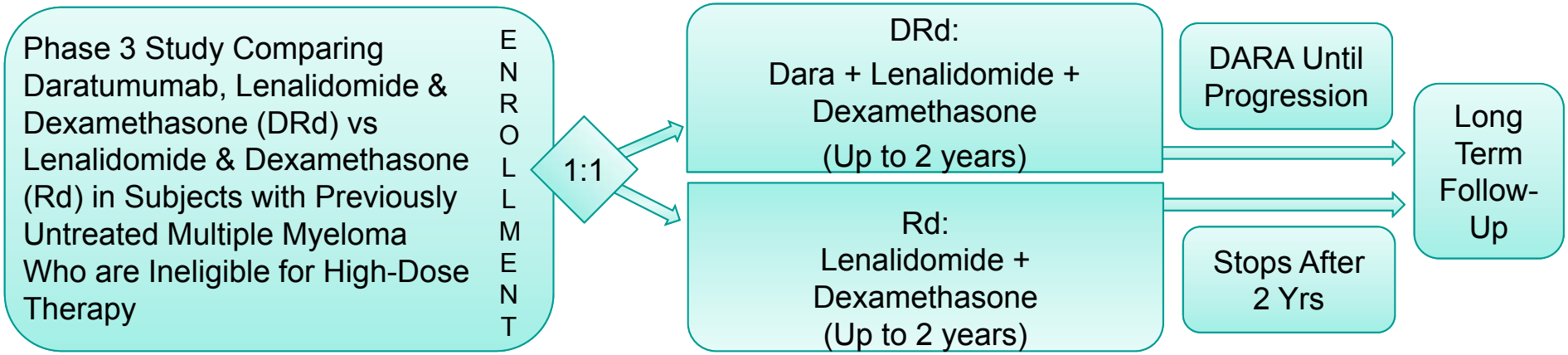
NCT 02195479 (MMY3007 Alcyone) Enrolling Now: 700 Est. Pts



Primary Endpoint: PFS

1 Cycle = 42 Days

NCT 02252172 (MMY3008 Maia) Enrolling Now: 730 Est. Pts

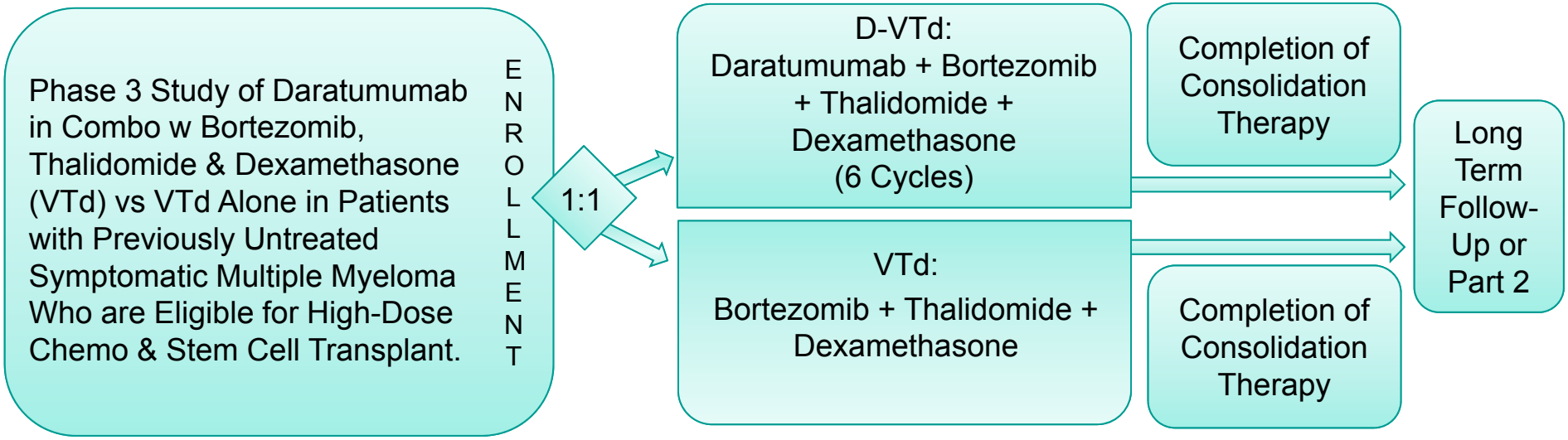


Primary Endpoint: PFS

1 Cycle = 28 Days

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Frontline Transplant

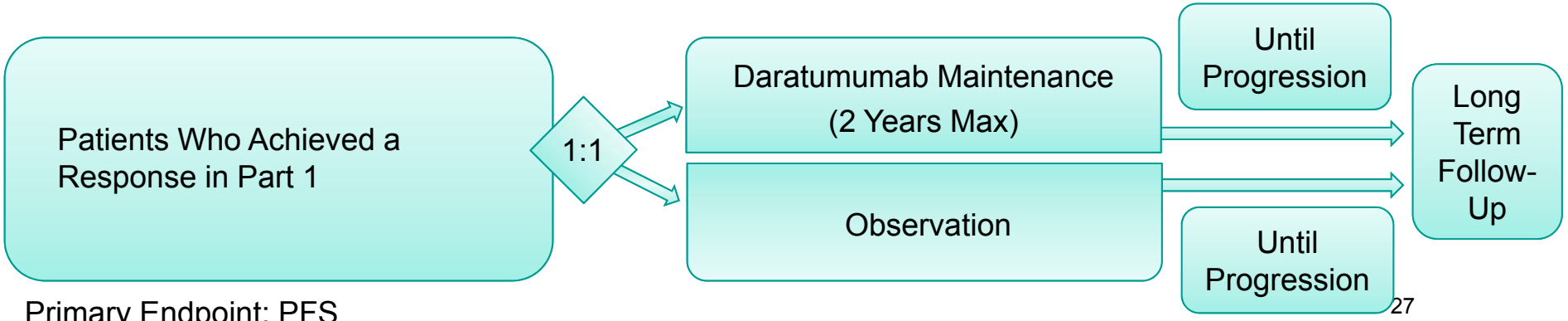
NCT 02541383 (MMY3006 Cassiopeia) Enrolling Now: 1,080 Est. Pts: Part 1



Primary Endpoint: sCR

1 Cycle = 21 Days

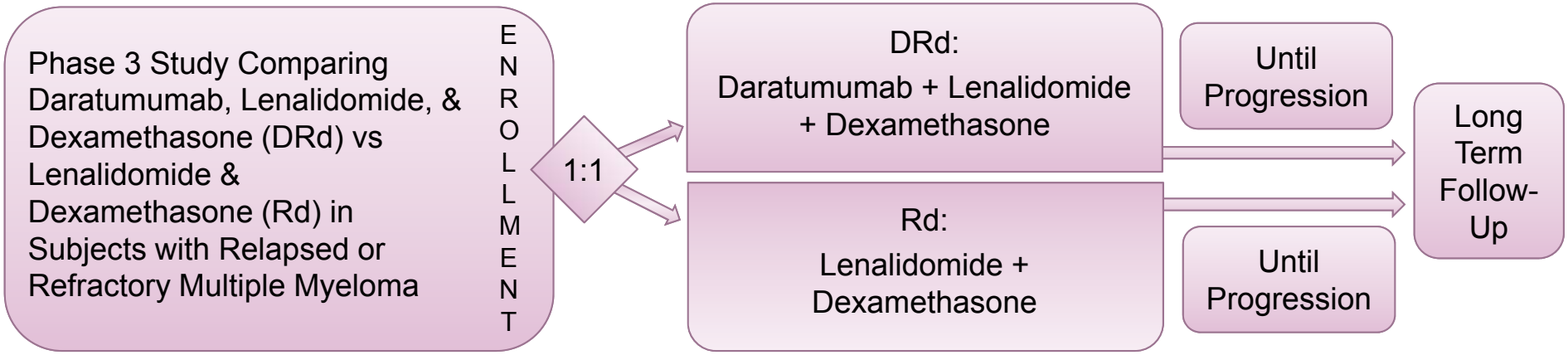
MMY3006 Part 2



Primary Endpoint: PFS

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Relapsed or Refractory

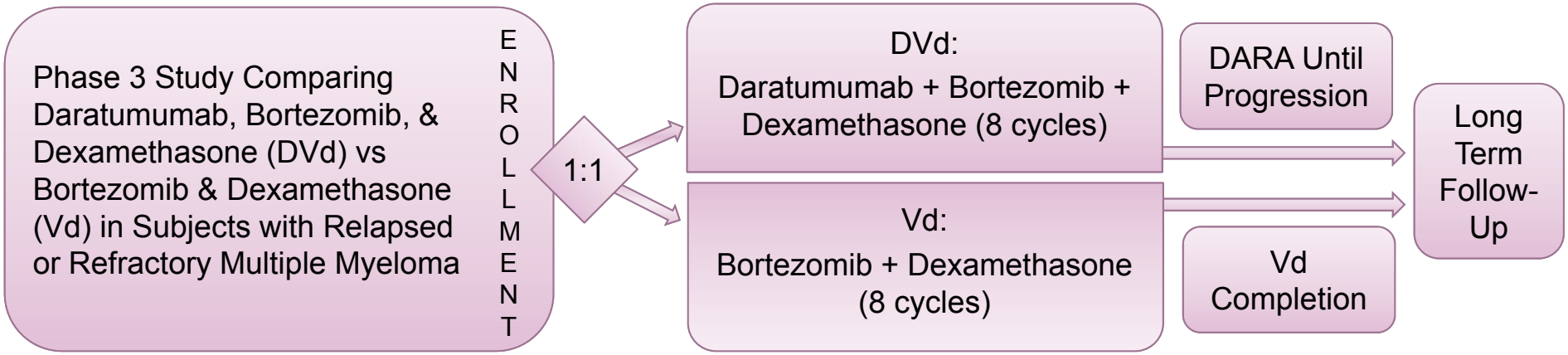
NCT 02076009 (MMY3003 Pollux) Enrollment Complete: 570 Est. Pts



Primary Endpoint: PFS

1 Cycle = 28 Days

NCT 02136134 (MMY3004 Castor) Enrollment Complete: 480 Est. Pts

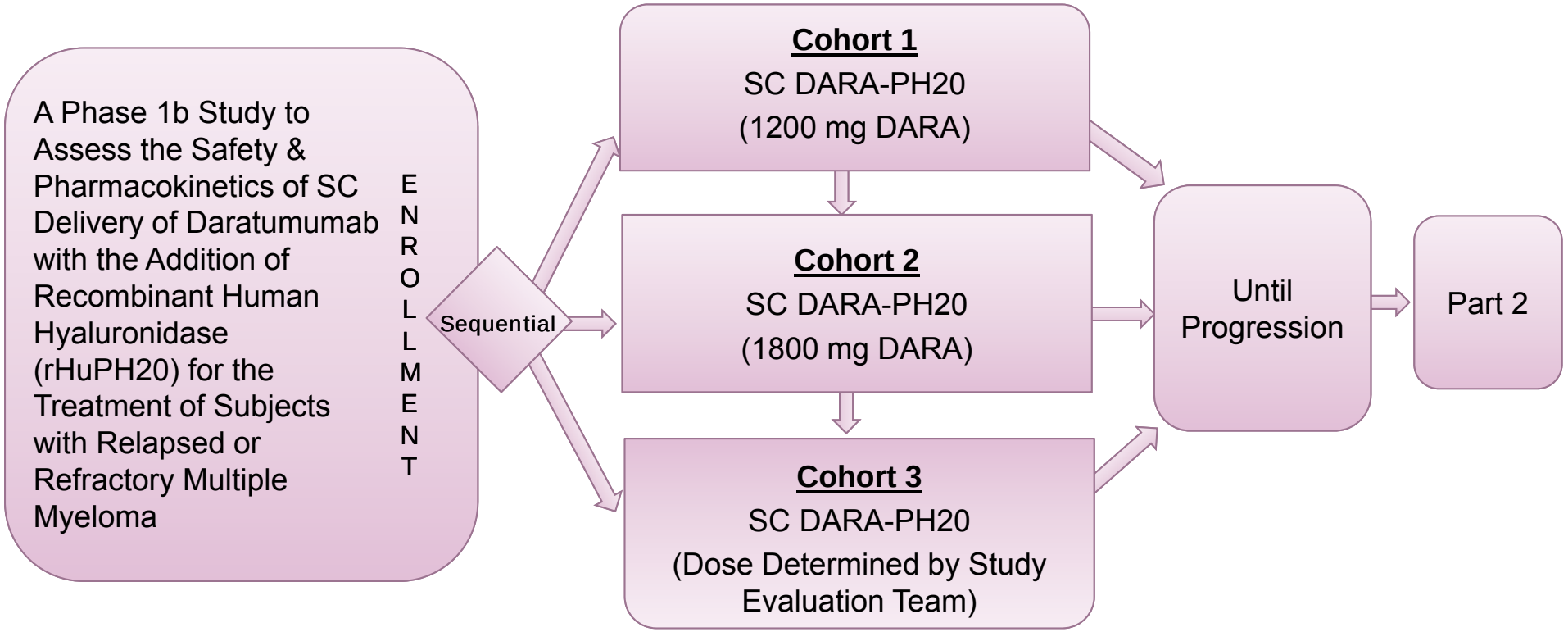


Primary Endpoint: PFS

1 Cycle = 21 Days First 8 Cycles Thereafter 28 Days

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

NCT 02519452 (MMY1004) Enrolling Now: 128 Est. Pts
Part 1

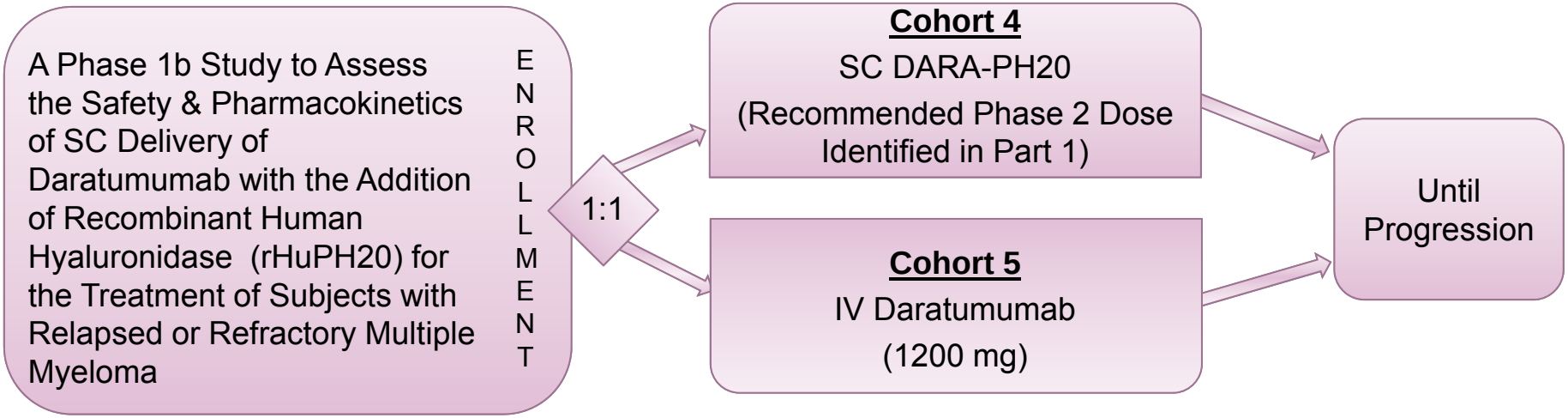


Primary Endpoint: Serum Trough Concentrations, Safety

1 Cycle = 28 Days

Janssen Daratumumab Clinical Trials in Multiple Myeloma: Relapsed or Refractory: Subcutaneous con't

NCT 02519452 (MMY1004) Not Yet Open for Enrollment: 128 Est. Pts Part 2

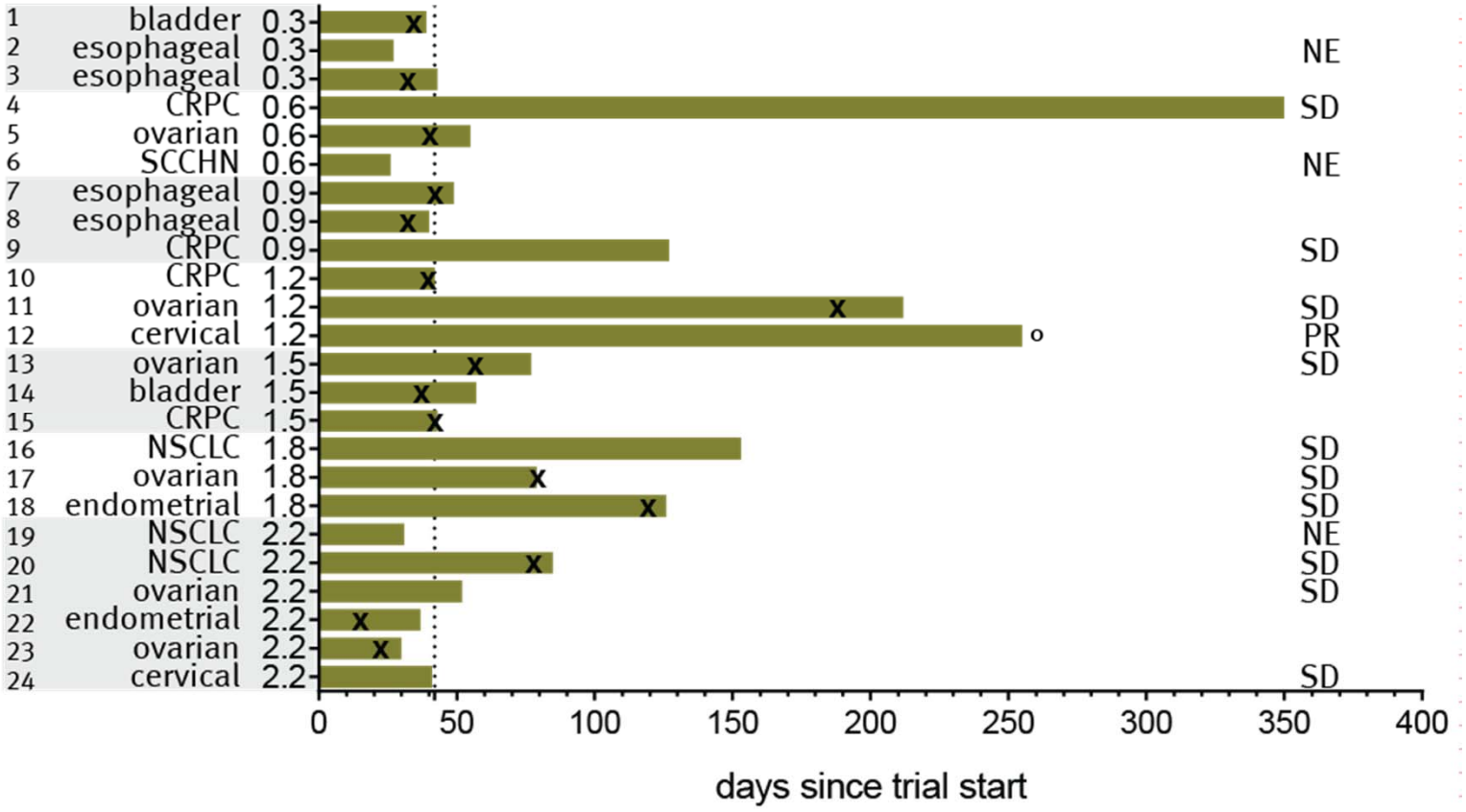


Primary Endpoint: Serum Trough Concentrations, Safety

1 Cycle = 28 Days

Tisotumab Vedotin in Patients with Solid Tumors

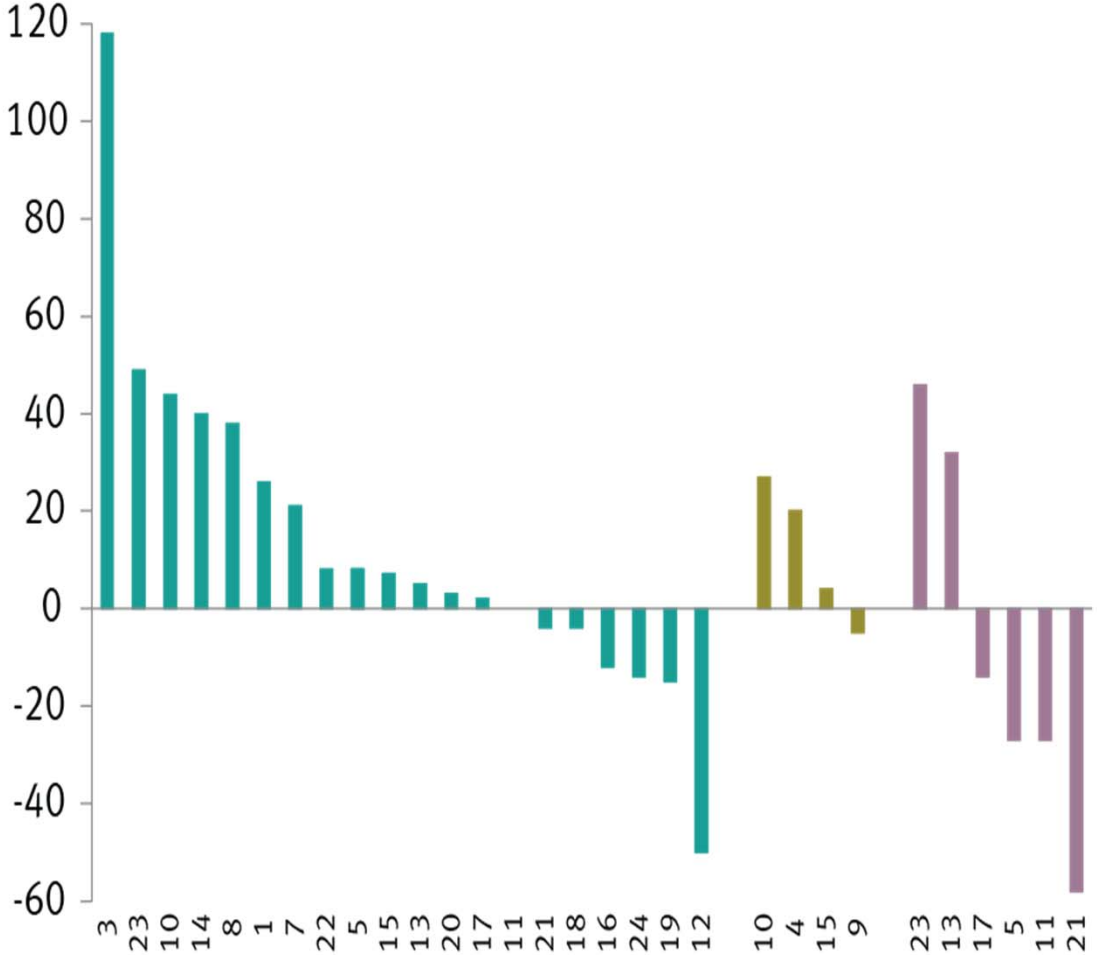
Best Response and Duration of Follow-up

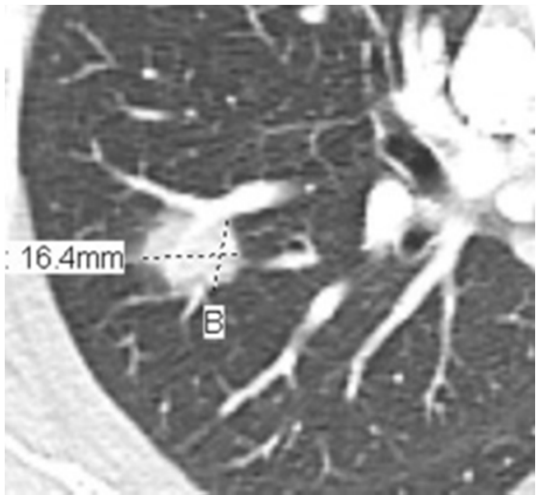


- Footnote: X denotes time of disease progression. Patients still in the trial have an “O” following the end of their bar. Dashed vertical line at 6 weeks denotes the SD-threshold, Not evaluable (because of insufficient follow-up) patients are denoted with an NE. SD: stable disease, PR: partial response.

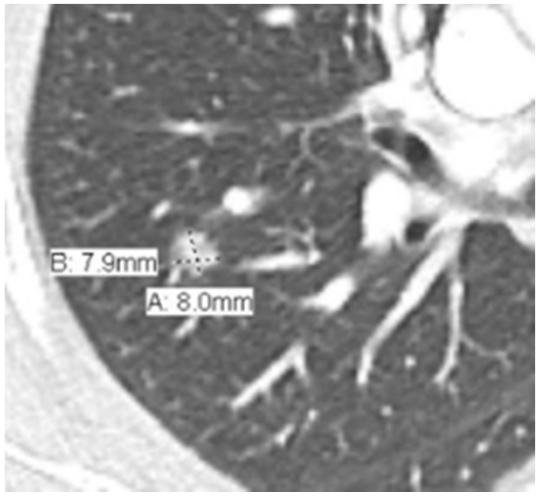
Tisotumab Vedotin in Patients with Solid Tumors

Best Percent Reduction from Baseline





Pre-study (August 2014)



Post therapy (May 2015)

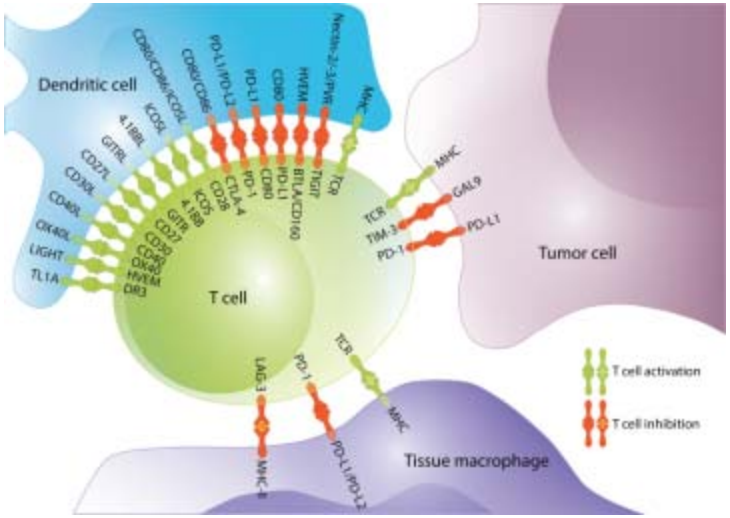
Footnote: as per RECIST 1.1 (green), PSA (CRPC patients only, yellow), CA125 (ovarian cancer patients only, purple).

Immuno-Oncology

Turning Cancer into a Chronic Condition

Innovating cancer treatment

- Activate the patient's own immune system to fight cancer
- Long duration of response
- Potential game changer
  - >$50B market



Many immune checkpoint targets

- Combinations may improve survival outcome

DuoBody technology

- Robust & versatile BsAb platform
- Ideal for:
  - Screening multiple combinations in final therapeutic format
  - Combined targeting immune check point
- Partnerships with BioNovion and BioNTech

Immuno-Oncology

Genmab as Key Player: Two Commercial Deals

Aduro Biotech

- Expansion of previous research collaboration
- Co-development agreement
- Bispecific antibodies to immuno-oncology targets to be created with DuoBody technology

BioNTech

- Co-development and commercialization agreement
- Collaboration will focus on multiple product candidates in field of immuno-oncology
- BioNTech provides antibody panels

Better Antibodies By Design

Genmab