Better Antibodies By Design

Morgan Stanley Global Healthcare Conference

9-11 September 2013

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 human antibodies to treat cancer
- Proven ability to bring product to market
  - One marketed product (Arzerra®) with growing sales
  - First-in-class daratumumab potential next to market
- Strong innovation
  - Proprietary technologies – DuoBody® & HexaBody™
  - Innovative pre-clinical pipeline including HuMax®-TF-ADC
  - World class antibody know-how
- Collaborations with blue chip partners incl. GSK and Janssen
- Capital efficient model aimed at creating a sustainably profitable business

Innovative Pipeline

Product	Disease Indications	Development Phase: Pre-clinical	I	I/II	II	III	IV
Ofatumumab 18 studies Partner: GSK	Chronic lymphocytic leukemia (CLL)			■	■	■	■
	Follicular lymphoma (FL)		■		■	■	
	Diffuse large B-cell lymphoma (DLBCL)				■	■	
	Pemphigus vulgaris (PV)					■	
	Relapsing remitting multiple sclerosis (RRMS)				■		
	Waldenström's Macroglobulinemia (WM)				■		
Daratumumab 2 studies Target: CD38 Partner: Janssen	Multiple myeloma (MM)			■			
Inclacumab Target: p-Selectin Partner: Roche	CVD: Healthy volunteers		■				
	CVD: Saphenous vein graft disease				■		
	CVD: Acute coronary syndrome (ACS)*				■		
Teprotumumab Target: IGF-1R Partner: River Vision	Active thyroid eye disease				■		
HuMax-TF-ADC Target: Tissue factor Partner: SeaGen	Solid cancers	IND filed					
> 10 Active Pre-clinical Programs	HuMab, Enhanced HuMab, HuMab-ADC, DuoBody or DuoBody-ADC	■					

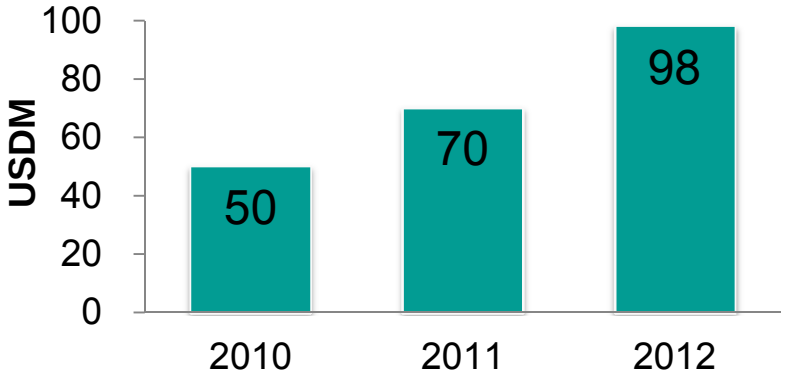
*Study completed

Arzerra® (ofatumumab)

About Arzerra

- Fully human antibody
- Approved in US, EU, Japan & other territories for CLL patients that do not respond to current treatments (fludarabine & alemtuzumab)
- Targets CD20 on (cancerous) B-cells
- Highly effectively engages immune system
- Slow release from disease target
- Differentiated to other CD20 mAbs, targets slice of > $7 Bn market
- Successful GSK collaboration since 2006

GSK Arzerra Sales Growth



- Genmab Cancer Royalty = 20%
- H1 2013 sales GBP 38.3M (~$59M); royalty DKK 67M

Future Growth Drivers

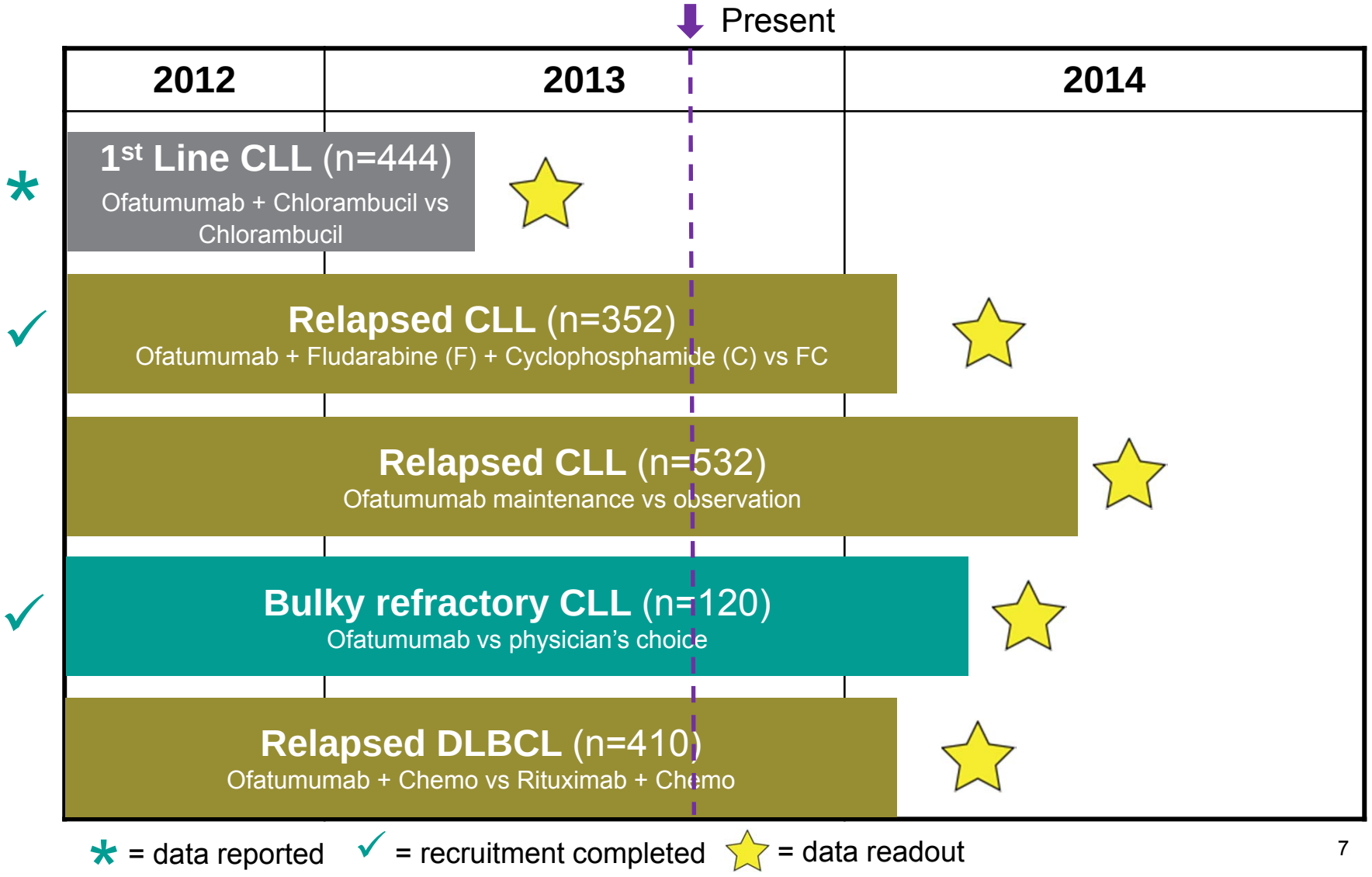
- Continued worldwide rollout
- Blockbuster potential in Cancer; broad potential in Autoimmune diseases
- Broad clinical program - 7 cancer pivotal trials ongoing

Ofatumumab + Chlorambucil Extends Progression Free Survival: Phase III Results

- Ofatumumab + chlorambucil vs. chlorambucil alone in front line CLL
- 447 patients in the study
- Met primary endpoint in the study - PFS
- 9.3 month improvement in PFS in patients treated with ofatumumab + chlorambucil vs chlorambucil alone
- 22.4 month median PFS in ofatumumab + chlorambucil arm
- 13.1 month median PFS in chlorambucil arm
- No unexpected safety findings
- Most common SAEs
  - Neutropenia (5%), anemia (4%), pneumonia (4%) and pyrexia (2%)

Ofatumumab: Driving Value Through Data

Pivotal Studies Due in Next 12 months



Daratumumab (HuMax®-CD38)

First-in-Class Antibody with Broad-Spectrum Killing

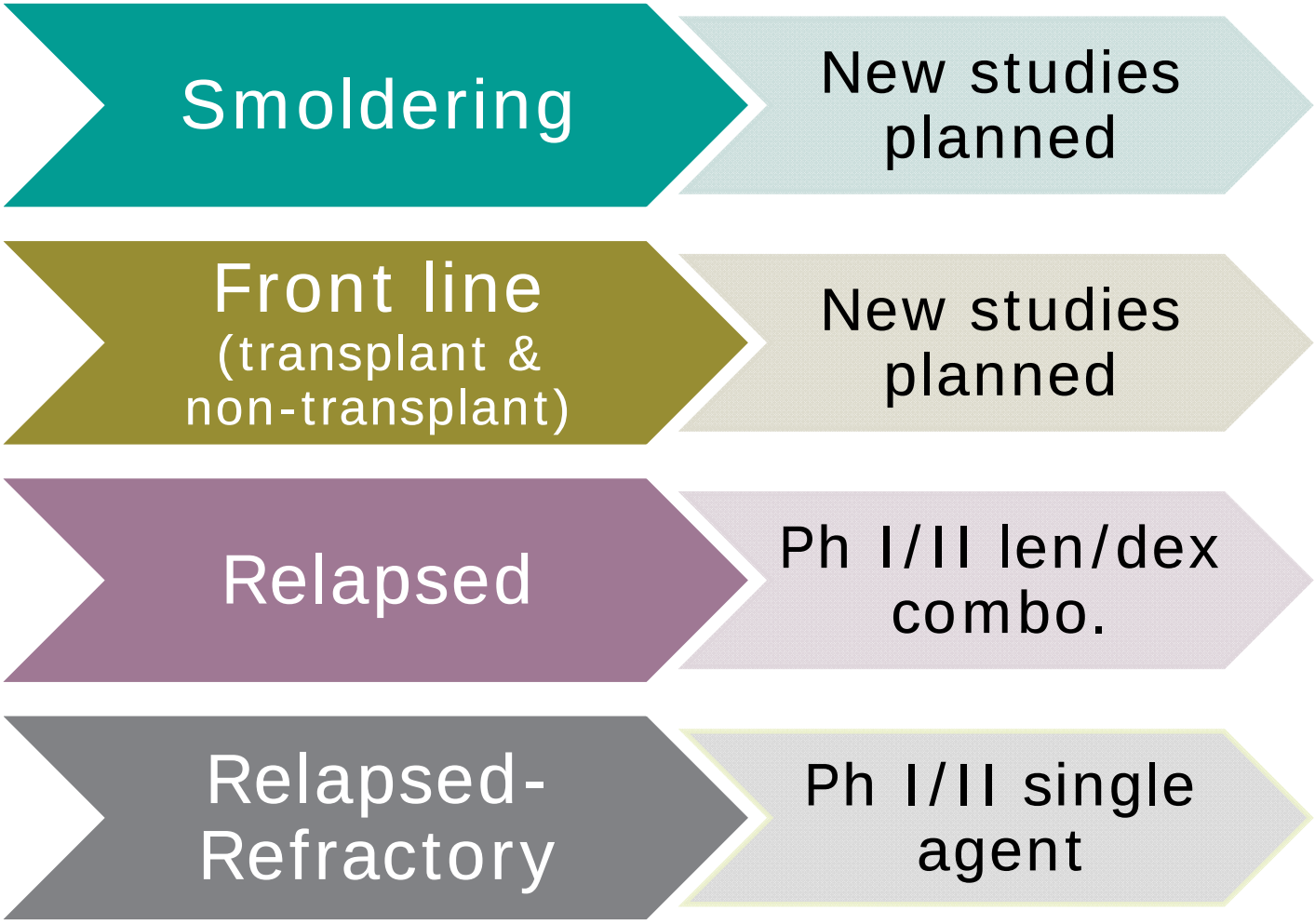
First-in-Class Fully Human Antibody

- Targets CD38 molecule on multiple myeloma (MM) cells
- Potential in: MM, DLBCL, FL, Plasma Cell Leukemia, ALL, Mantle Cell Lymph., AML
- Blockbuster potential
- Promising early clinical data
- Breakthrough Therapy Designation, Fast Track & Orphan Drug status awarded by FDA

Partner: Janssen Biotech

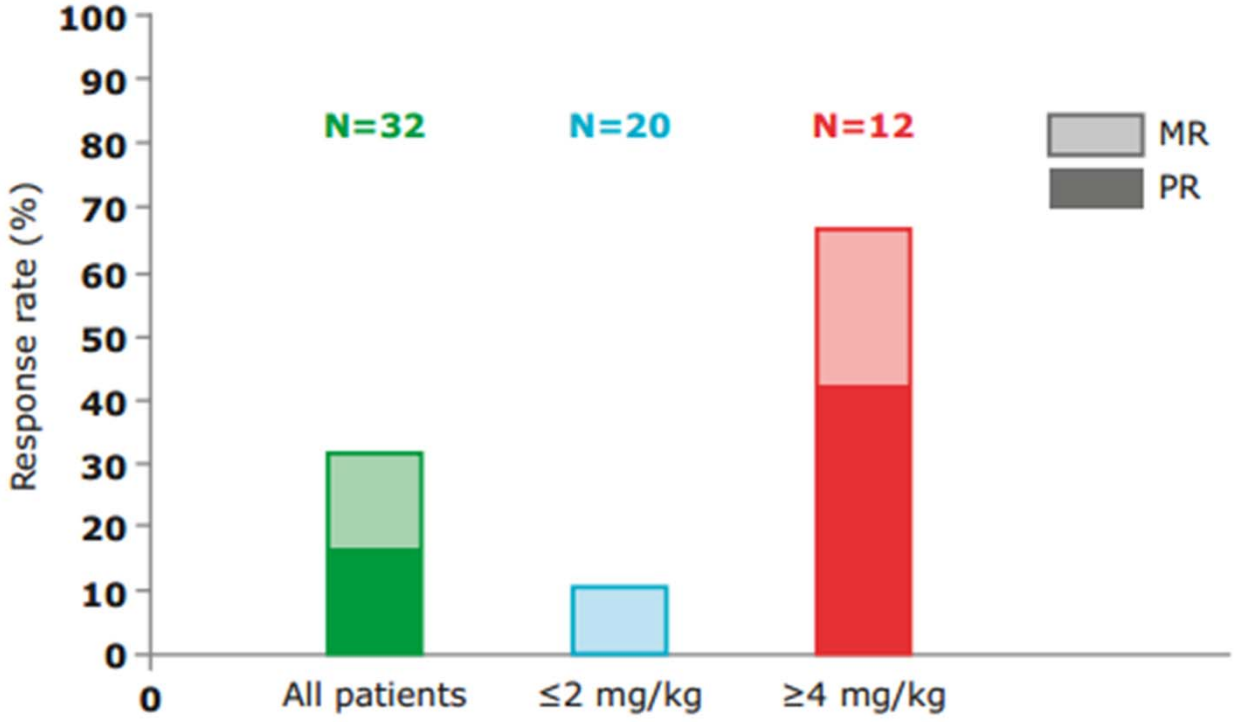
- Janssen fully funds development & commercialization
- $55M upfront payment
- $80M equity investment by J&J (10.7% stake)
- > $1.1Bln potential deal value, + double-digit royalties
- Zero cost / limited risk for Genmab

Extensive Daratumumab Development Plans in Multiple Myeloma



Daratumumab: Early Signs of Clinical Activity

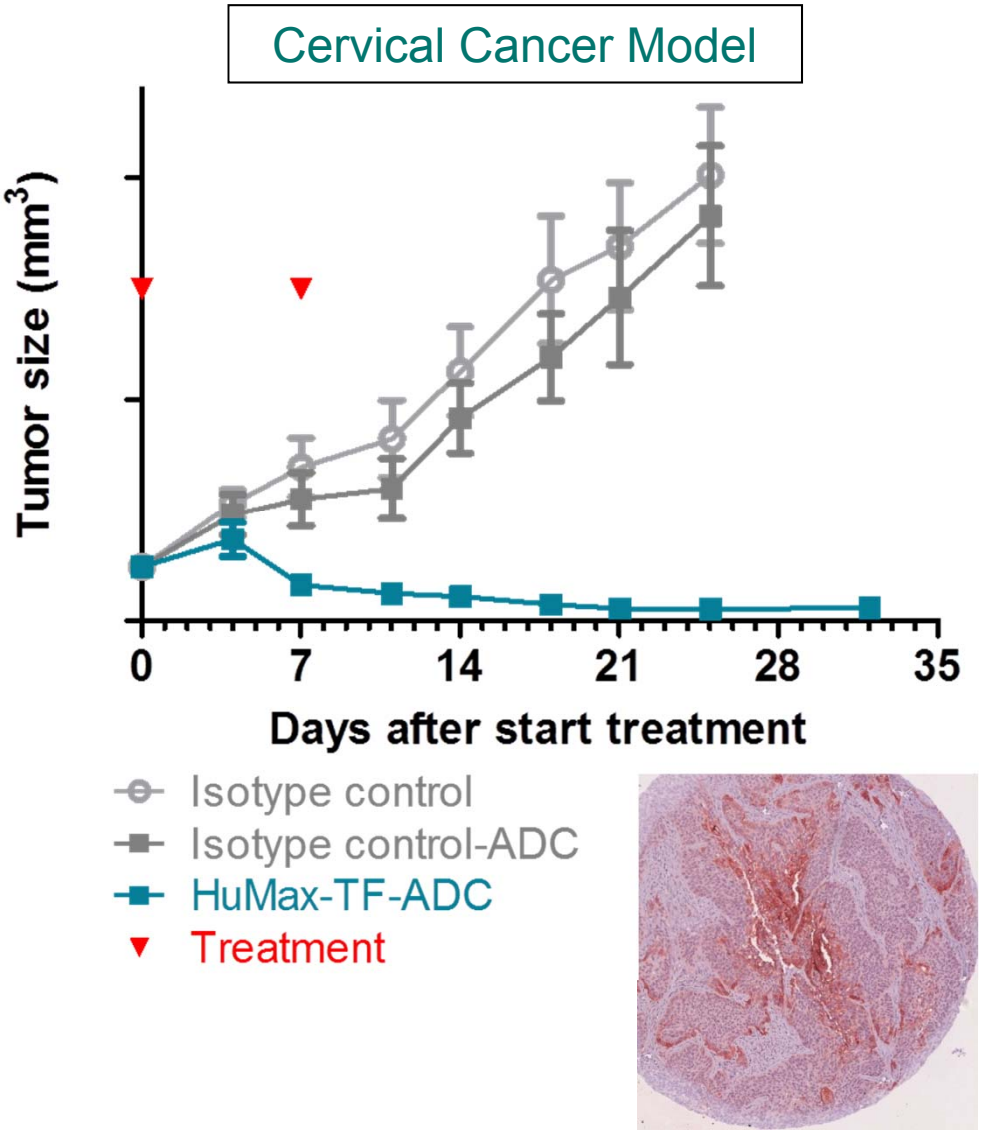
- Preliminary Ph I/II data in relapsed / refractory multiple myeloma
- 12 patients received ≥ 4 mg/kg of daratumumab
  - 8 clinical responses observed, 5 PR and 3 MR
  - Median PFS not reached at 18.4 weeks



HuMax®-Tissue Factor-ADC: Towards the Clinic

Next Generation Therapeutics

- Fully human antibody-drug conjugate
- Targets Tissue Factor (TF)
- Potential in multiple solid cancers including pancreatic, lung, bladder, cervix, ovarian, and prostate cancer
- IND filed July 2013
- Collaboration with Seattle Genetics



DuoBody Platform

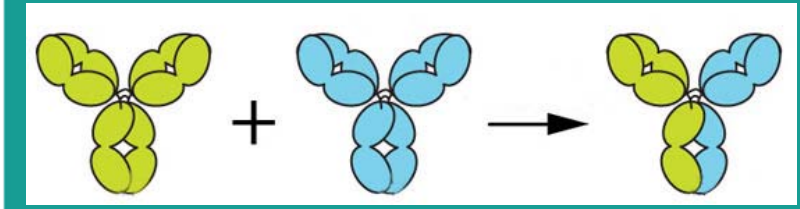
Innovative Technology for Bispecific Antibodies

DuoBody

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

Major Collaborations - $1.9B Potential Value

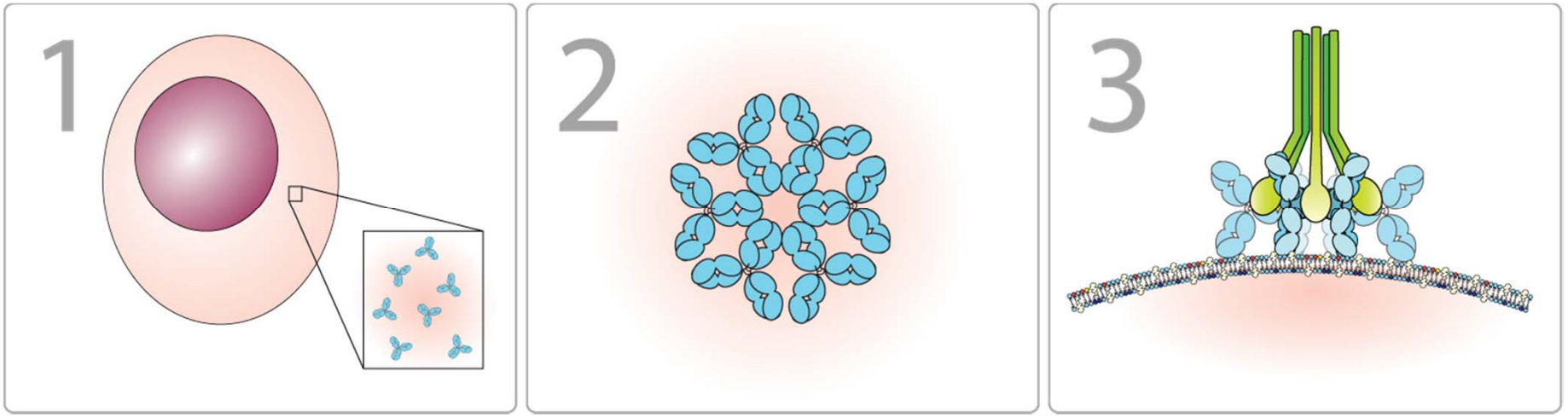
- Novartis
  - 2 programs, $175M total pot. deal value, plus royalties
- Janssen Biotech
  - 10 programs, $1.75B total pot. deal value, plus royalties



HexaBody™ Antibody Technology

Enhancing multiple Natural Killing Mechanisms

- Builds on natural antibody biology - minimal engineering required
- 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
- Can create novel, differentiated products in cancer & infectious disease
  - Repurpose/rescue drug candidates that failed in Phase II/III
  - Life cycle management



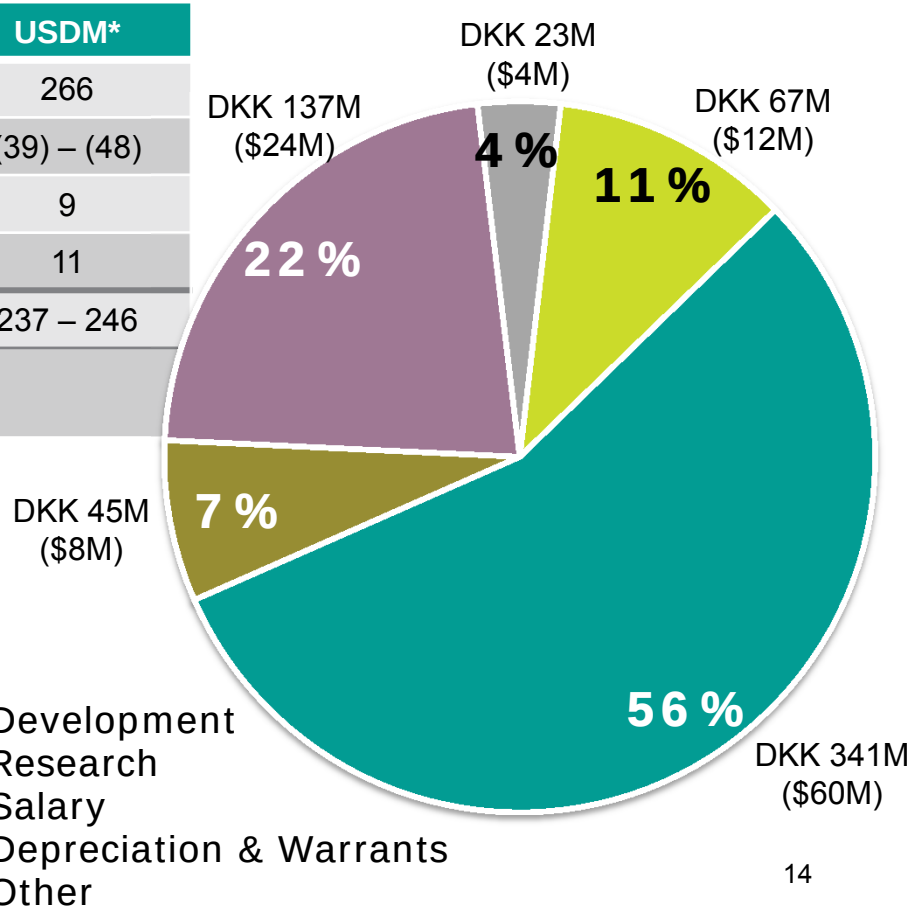
2013 Guidance as of August 14

Income Statement	DKKM	USDM*
Revenue	550 – 590	96 – 103
Operating expenses	(600) – (625)	(105) – (110)
Operating loss continuing operations	(10) – (75)	(2) – (13)
Discontinued operation	42	7

Cash Position	DKKM	USDM*
Cash position beginning of year**	1,516	266
Cash used in operations	(225) – (275)	(39) – (48)
Facility sale	52	9
Warrant exercise	63	11
Cash position at end of year**	1,350 – 1,400	237 – 246

** USD 1.00 = DKK 5.7024 (spot rate June 30, 2013)*
***Cash, cash equivalents and marketable securities*

2013 Expense Base
DKK 613M ($108M)

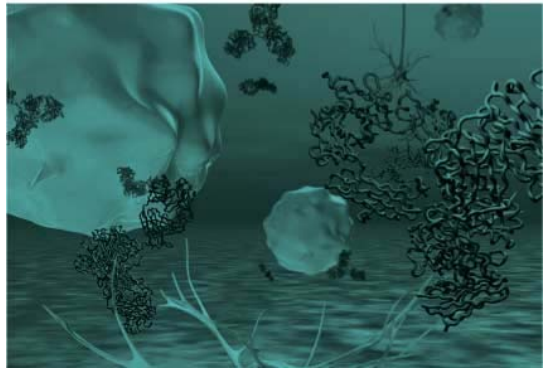


2013: A Year of Data and Deals

Priority	Milestone	Current Progress
Maximize value of ofatumumab	» Ph III frontline CLL; ofa + chlorambucil vs chlorambucil data » Ph II front and 2nd line CLL; ofa + bendamustine data » Ph III CLL; ofa maintenance safety interim data » Update progress ofa sc autoimmune development	✓ Positive headline data reported in May ✓ Positive headline data reported in May ✓ IDMC recommends continuing study ✓ Recruitment in Ph II MS study completed ✓ Phase III study in pemphigus vulgaris
Expansion Arzerra	» Approval in Japan » Launch & reimbursement in new countries	✓ Approved in March ✓ Launched in Japan in May
Fully exploit the potential of daratumumab	» Ph I/II MM monother. matured safety & effic. data » Ph I/II MM combi therapy preliminary safety & efficacy data » Initiate additional MM clinical studies	✓ Updated data pres. at Intl. Myeloma Workshop / ASCO 2013 / EHA 2013 ✓ Received Fast Track, Orphan Drug & Breakthrough Therapy Designations
Expand pipeline	» File IND for HuMax-TF-ADC » Initiate first clinical trial with HuMax-TF-ADC » Update progress pre-clinical programs including ADC and DuoBody projects	✓ IND filed in July ✓ DuoBody platform presented at multiple conferences
Next generation technologies	» Expand DuoBody technology collaborations » Validate and advance HexaBody technology	✓ Janssen activated 4th & 5th bispecific antibody programs; one in vivo and one technical POC milestone reached ✓ 1st development milestone reached in Novartis collaboration
Partnerships	» Report progress partnered programs » Enter new collaboration	✓ Ph II inclacumab data reported & new Ph I study initiated ✓ Ph II teprotumumab study initiated by River Vision ✓ Entered 50:50 agreement for HuMax-TAC-ADC with ADC Therapeutics
Disciplined expense management, reduce cash burn	» 2013 operating loss < than in 2012 » Reduce cash burn, lengthen cash runway	✓ Guidance improved ✓ MN facility sold in Q1 2013

On Track to a Sustainably Profitable Future

- World class antibody know-how
- Next generation antibody technologies
- Arzerra sales on the rise
- Expansive daratumumab development with Janssen Biotech
- HuMax-TF-ADC IND filed
- Broad pre-clinical pipeline includes multiple DuoBody & ADC programs
- New partnership deals
- Well capitalized: Cash runway > 5½ years
- Disciplined spending & selective investing



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