Deutsche Bank 41st Annual Health Care Conference

Company Update

May 5, 2016

Safe Harbor

This presentation includes forward-looking statements.

Actual results could differ materially from those included in the forward-looking statements due to various risk factors and uncertainties including changes in business, economic competitive conditions, regulatory reforms, foreign exchange rate fluctuations and the availability of financing.

These and other risks and uncertainties are detailed in the Company's Annual Report.

MorphoSys at a Glance

MorphoSys is developing a pipeline of truly differentiated therapeutic antibodies built using proprietary technologies

- Munich, Germany-based biopharmaceutical company
- The industry's largest antibody therapeutic pipeline assembled using proprietary technologies:
  - 104 active therapeutic programs
  - 26 antibodies in clinical trials
- Growing portfolio of attractive proprietary assets
- Strong balance sheet with recurring cash-flows supports growing investment in R&D
- Successful track-record of partnering world-wide
- Listed on the German TecDAX

The MorphoSys Pipeline
26 Clinical Product Candidates, 104 Total

Most advanced development stage

Program	Partner	Target	Disease Area	Discovery	Preclinic	Phase 1	Phase 2	Phase 3
Bimagrumab (BYM338)	Novartis	ActRIIB	Musculoskeletal diseases					
Guselkumab (CNTO1959)	Janssen	IL23p19	Psoriasis					
Gantenerumab	Roche	Amyloid-ß	Alzheimer's disease					
MOR208	-	CD19	ALL, CLL, NHL					
MOR202	-	CD38	Multiple myeloma					
MOR103/GSK3196165	GSK	GM-CSF	Inflammation					
Anetumab Ravtansine (BAY94-9343)	Bayer	Mesothelin (ADC)	Solid tumors					
BHQ880	Novartis	DKK-1	Multiple myeloma					
BPS804	Mereo/Novartis	Sclerostin	Brittle bone syndrome					
CNTO3157	Janssen	-	Inflammation					
CNTO6785	Janssen	-	Inflammation					
LFG316	Novartis	C5	Eye diseases					
LJM716	Novartis	HER3	Cancer					
Tarextumab (OMP-59R5)	OncoMed	Notch 2	Solid tumors					
VAY736	Novartis	BAFF-R	Inflammation					
MOR209/ES414	Emergent	PSMA/CD3	Prostate cancer					
MOR106	Galapagos	-	Inflammation					
BAY1093884	Bayer	TFPI	Hemophilia					
BI-836845	BI	IGF-1	Solid tumors					
NOV-7	Novartis	-	Eye diseases					
NOV-8	Novartis	-	Inflammation					
NOV-9	Novartis	-	Diabetic eye diseases					
NOV-10	Novartis	-	Cancer					
NOV-11	Novartis	-	Blood disorders					
PF-05082566	Pfizer	4-1BB	Solid tumors					
Vantictumab (OMP-18R5)	OncoMed	Fzd 7	Solid tumors					
MOR107 (LP2)	-	AT2-R	Fibrosis					
Immuno-oncology program	Merck	-	Cancer					
Immuno-oncology program	Immatics	-	Cancer					
6 MOR programs	-	-	Various					

90 Partnered Discovery Programs
13 MOR Programs
1 Outlicensed Program

In addition, 24 partnered programs in pre-clinic, and 45 partnered programs in discovery

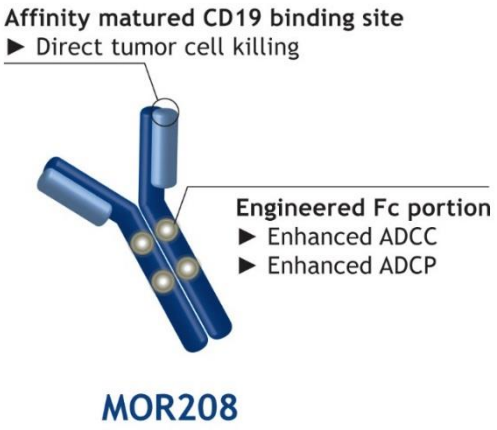
The MOR Portfolio
5 Clinical Product Candidates, 14 Total

Program	Indication	Target	Discovery	Preclinic	Phase 1	Phase 2	Phase 3
Unpartnered							
MOR208	DLBCL	CD19				FTD, orphan status US & EU	
	CLL					Orphan status US & EU	
MOR202	Multiple myeloma	CD38					
MOR107	Fibrosis	AT2-R					
Immuno-oncology program	Cancer	MHC-associated peptides					
6 Programs	Various	Various					
Co-development & co-promotion							
MOR209/ES414 (Emergent)	Prostate cancer	PSMA / CD3					
MOR106 (Galapagos)	Inflammation	Undisclosed					
Immuno-oncology program (Merck Serono)	Cancer	Undisclosed					
Outlicensed to GSK							
MOR103/ GSK3196165	RA	GM-CSF					
	Osteoarthritis of the hand						

MOR208
First- & Best-in Class Potential

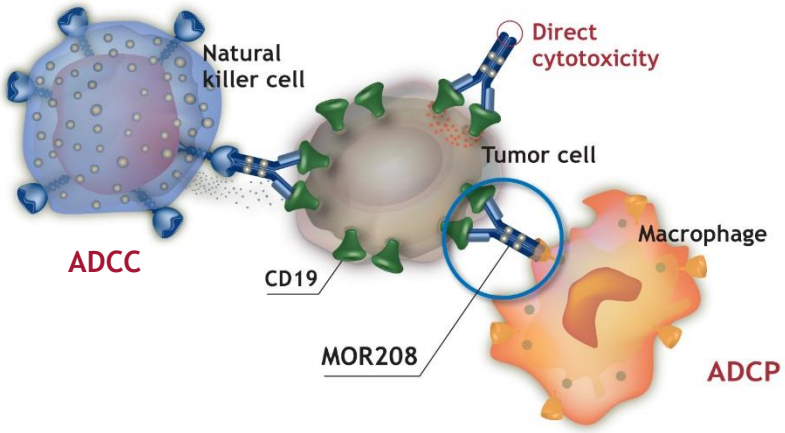
CD19 is an ideal target in NHL because

- CD19 is broadly and homogeneously expressed
  - Across different NHL subtypes incl. DLBCL and CLL
- CD19 conveys a survival signal for B cells
  - Via B cell receptor signaling
- CD19 expression seems to be preserved
  - Even after pretreatments targeting B cells

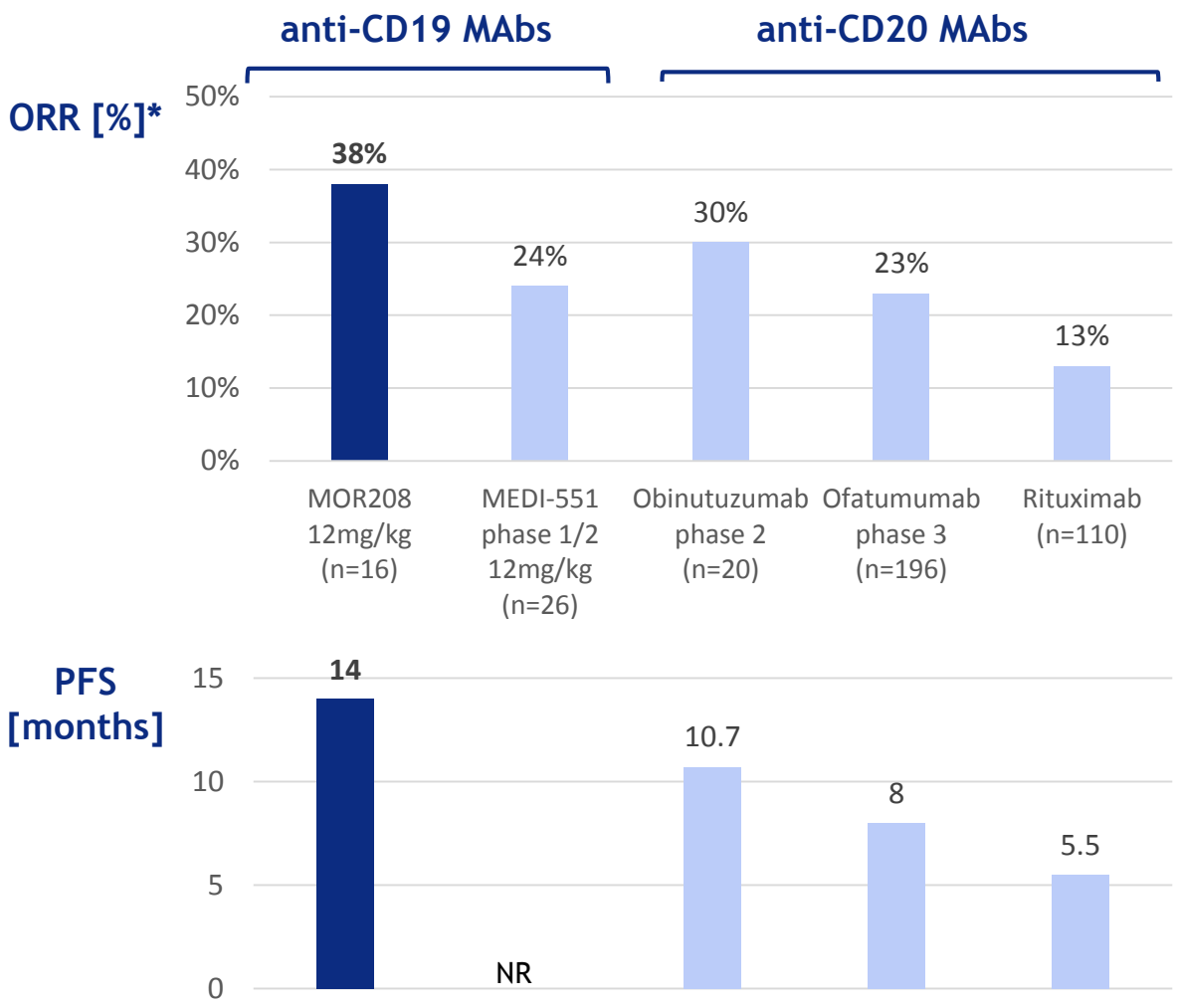


MOR208 is an Fc-enhanced, humanized IgG1 antibody targeting CD19

- Fc modification leads to dramatically enhanced B cell depletion by
  - Antibody dependent cellular cytotoxicity (ADCC)
  - Antibody dependent cell phagocytosis (ADCP)
  - Direct cytotoxicity
- Straightforward manufacturing
- Strong pre-clinical support for combo therapy



MOR208 in R/R CLL
Superior to Other CD19 and CD20 MAbs



Sources:
MOR208: Woyach et al., Blood 2014
MEDI-551: Forero-Torres et al. ASH 2013
Obinutuzumab: Cartron et al., Blood 2014
Ofatumumab: Byrd et al., NEJM 2014
Rituximab: Furman et al., NEJM 2014
*IWCLL Criteria: Hallek et al., 2008

[NR – not reported]

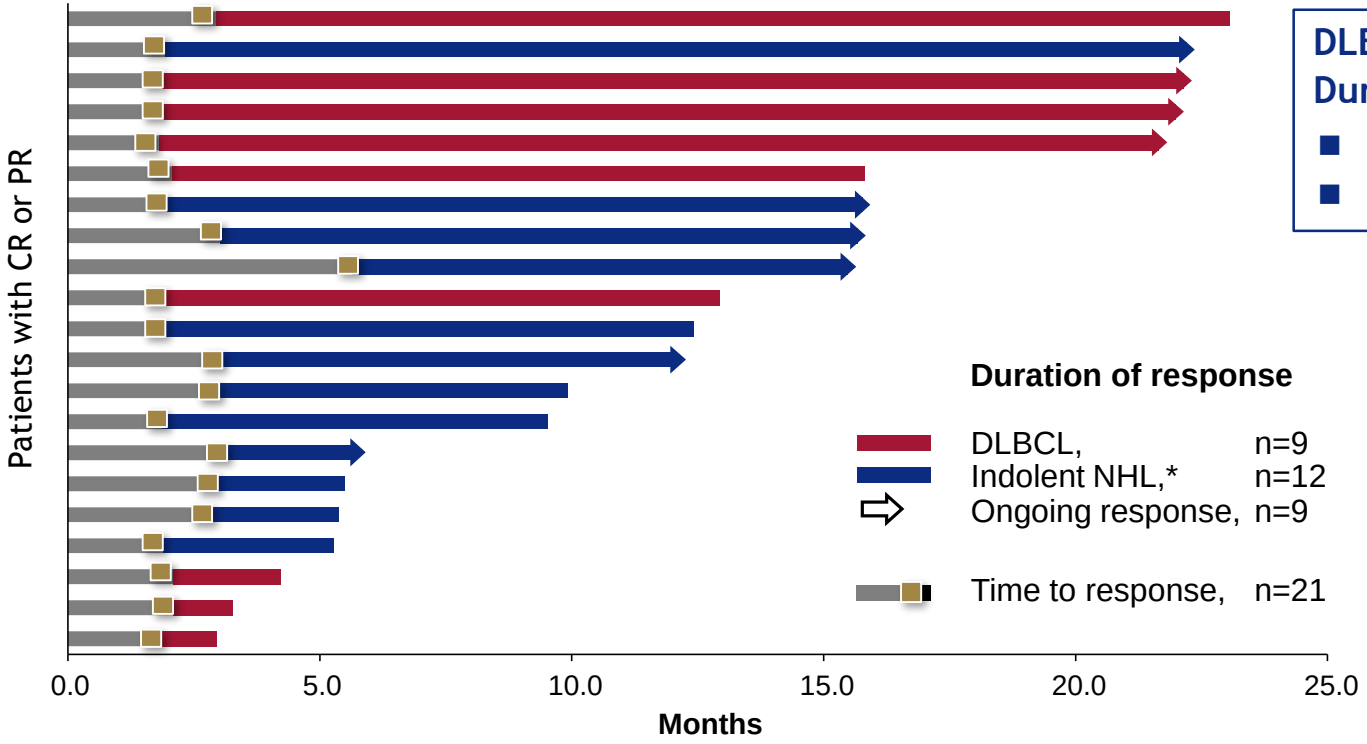
MOR208 in R/R NHL
Strong Single Agent Efficacy

Response Rate in evaluable patients* n (%)	**DLBCL** n=25	**iNHL** incl. FL n=40
Overall Response (ORR)	**9 (36%)**	**12 (30%)**
Complete response (CR)	2 (8%)	5 (13%)
Partial response (PR)	7 (28%)	7 (18%)
Stable disease (SD)	5 (20%)	21 (53%)

*Investigator assessed

Jurczak et al., Abstract #1528, ASH 2015

MOR208 in R/R NHL
Very Promising Duration of Response



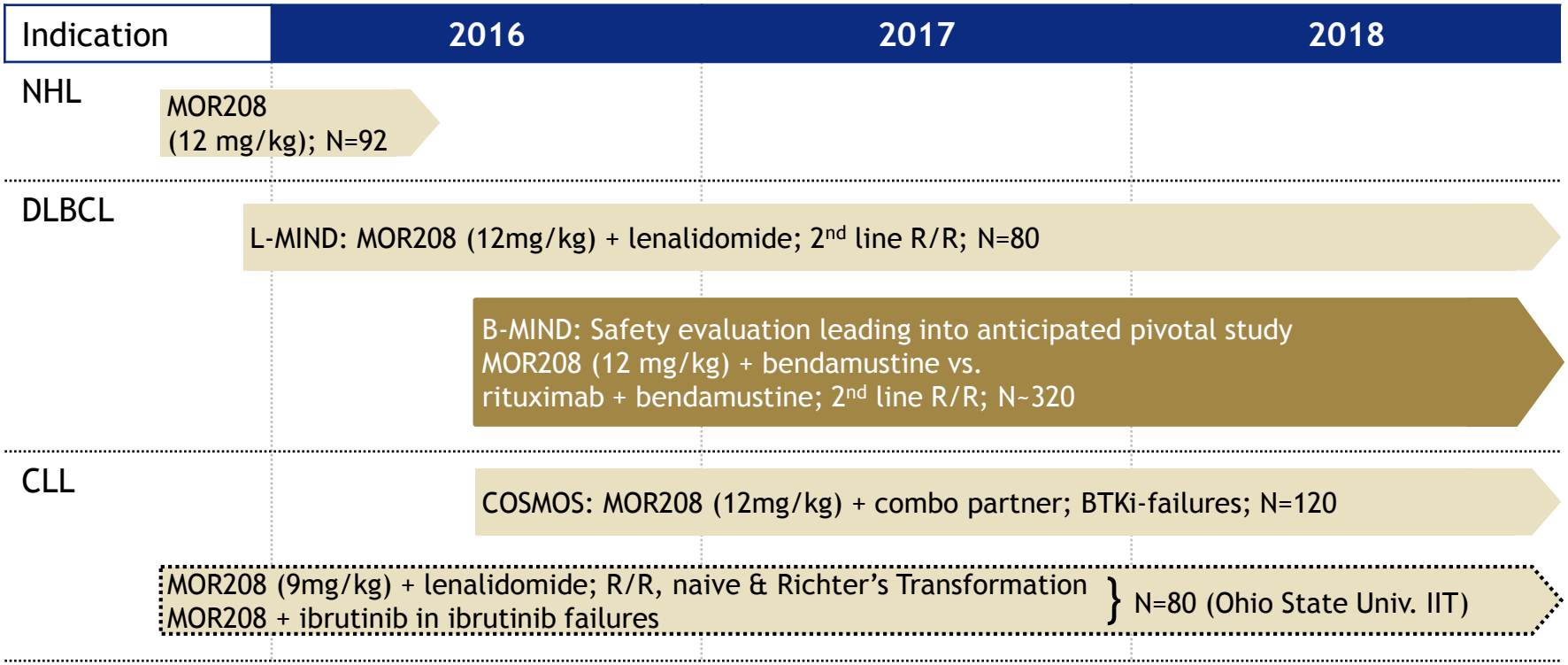
DLBCL
Duration of Response:

- Longest: 20 months+
- 12 months: 67%

* Includes follicular lymphoma and other indolent NHLs
DLBCL, diffuse large B-cell lymphoma; NHL, non-Hodgkin's lymphoma.

Jurczak et al., Abstract #1528, ASH 2015

MOR208
Comprehensive Clinical Development Plan



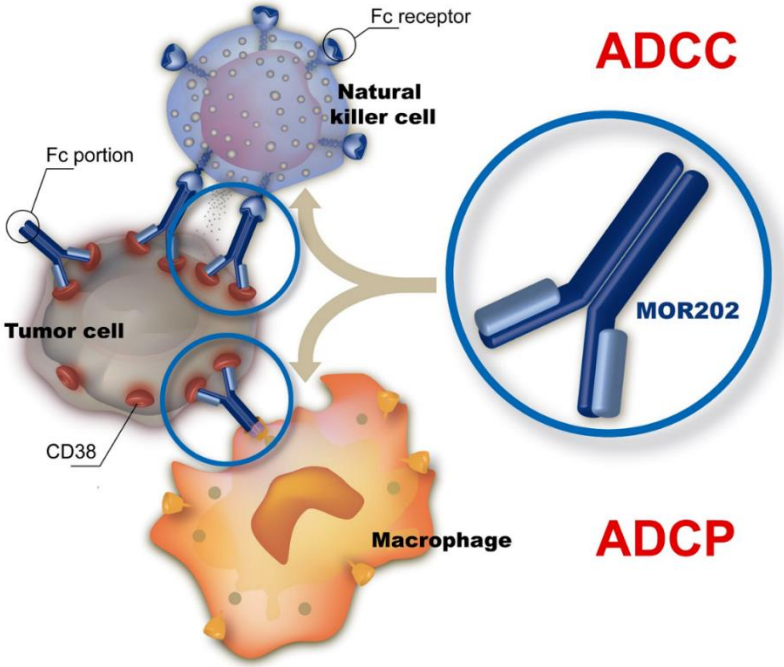
MOR202
A Novel Antibody for Multiple Myeloma

Fully human monoclonal HuCAL IgG1 antibody

- Targeting a unique epitope of CD38
- Inducing potent immune effector mechanisms ADCC and ADCP

One of only three CD38 antibodies in clinical development

Strongly synergistic with IMiDs and proteasome inhibitors in pre-clinical models



ADCC = Antibody-Dependent Cell-Mediated Cytotoxicity; ADCP = Antibody-Dependent Cell-Mediated Phagocytosis; CDC = Complement-Dependent cytotoxicity

MOR202: Excellent Clinical Safety & Convenience

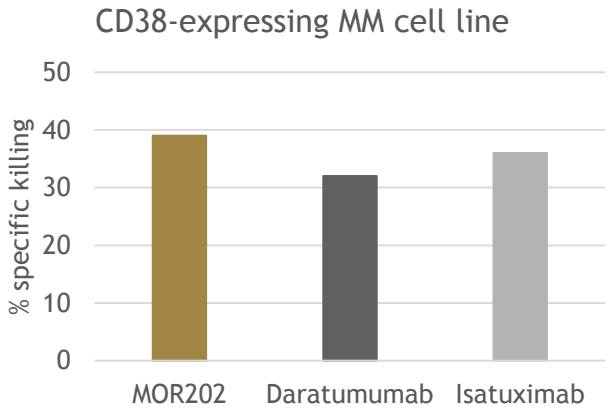
MOR202 shows best-in-class infusion tolerability & infusion duration

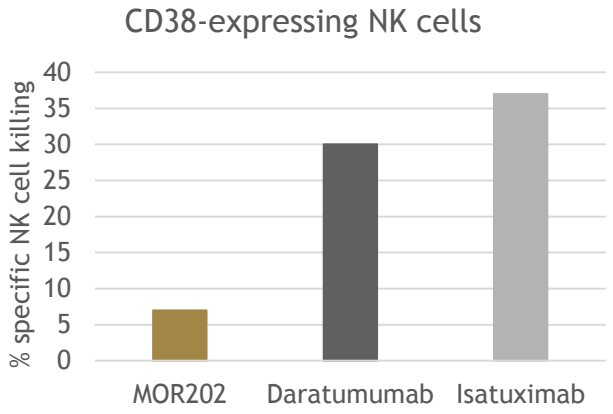
	MOR202	Daratumumab	Isatuximab
Infusion time	**2 h**	6.5 h (1st infusion) (3.5 h @ 3rd infusion)	4 - 6 h
Infusion reactions (IRRs) with Steroids	**6%** (Grade 1 only)	70-77%	52%

MOR202: Raab et al., ASH 2015
Daratumumab: Lokhorst et al., NEJM 2015
Isatuximab: Martin et al., ASH 2015

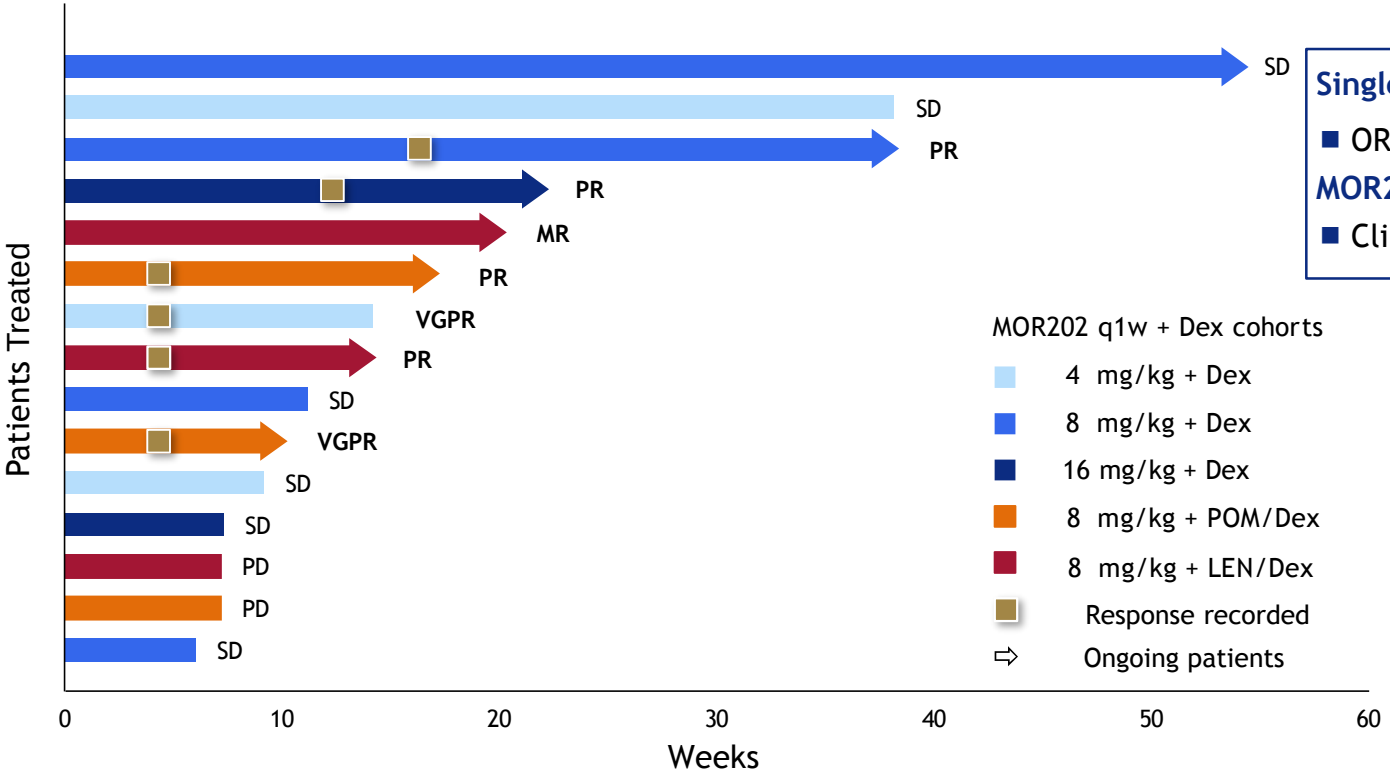
MOR202: Pre-clinical Data Suggest Advantage in Durability of Response

MOR202 shows best-in-class difference between MM cell killing and NK cell preservation





MOR202
Preliminary Phase 1/2a Data



Single agent MOR202:

- ORR = 33%

MOR202 & IMiD combos:

- Clinical benefit rate of 67%

Data from patients treated with the clinically relevant dose regimens who received > 1 treatment cycle.

Dex, dexamethasone; LEN, Lenalidomide; MR, minor response; POM, Pomalidomide; PD, progressive disease; PR, partial response; q1w, weekly; SD, stable disease; VGPR, very good partial response.

Raab et al, #3035, ASH 2015

Clinical Programs from Partnered Discovery Alliances (I)

Program	Partner	Target	Indication	Phase 1	Phase 2	Phase 3
Bimagrumab (BYM338)	Novartis	ActRIIB	sIBM (extension)			
			sIBM (long-term study)			
			Hip fracture surgery			
			Cachexia (COPD)			
			Sarcopenia (dose-ranging)			
			Sarcopenia (withdrawal extension study)			
Guselkumab (CNTO1959)	Janssen/J&J	IL23p19	Psoriasis (VOYAGE 1)			
			Psoriasis (VOYAGE 2)			
			Psoriasis (NAVIGATE)			
			Pustular/Erythrodermic psoriasis			
			Moderate to severe plaque-type psoriasis			
			Palmoplantar pustulosis			
			Active psoriatic arthritis			
Gantenerumab	Roche	Amyloid-ß	Mild Alzheimer‘s disease			
			Prodromal Alzheimer‘s disease			
			Genetically predisposed			
			Safety, Tolerability, and Pharmacokinetics			
Anetumab Ravtansine (BAY94-9343)	Bayer	Mesothelin	Mesothelioma (MPM)			
			Solid tumors, with pemetrexed and cisplatin			
			Advanced malignancies (Japan)			
			Ovarian cancer, with doxorubicin			
			Solid tumors with hepatic/renal impairment			
BHQ880	Novartis	DKK-1	MM (renal insufficiency)			
			Smoldering MM			
BPS804	Mereo/Novartis	Sclerostin	Osteoporosis			
			Hypophosphatasia (HPP)			
			Osteogenesis Imperfecta			
CNTO3157	Janssen/J&J	n.d.	Asthma			
			Safety/Pharmacokinetic			
CNTO6785	Janssen/J&J	n.d.	COPD			
			Rheumatoid arthritis			

Clinical Programs from Partnered Discovery Alliances (II)

Program	Partner	Target	Indication	Phase 1	Phase 2	Phase 3
LFG316	Novartis	C5	Age-related geographic atrophy			
			Geographic atrophy (combo with CLG561)			
			Panuveitis			
			Paroxysmal nocturnal hemoglobinuria			
LJM716	Novartis	HER3	ESCC (combo with BYL719)			
			HER2+ cancer (combo BYL719 & trastuzumab)			
			HER2+ cancer, combo with trastuzumab			
Tarextumab (OMP-59R5)	Oncomed/GSK	Notch 2	Small cell lung cancer (Pinnacle)			
			Solid tumors			
VAY736	Novartis	BAFF-R	Pemphigus vulgaris			
			Primary Sjögren's syndrome			
			Rheumatoid Arthritis			
BAY1093884	Bayer	TFPI	Bleeding disorders			
BI-836845	BI	IGF-1	Solid tumors, Japanese patients			
			EGFR mutant NSCLC			
			Metastatic breast cancer			
			CRPC + enzalutamide			
			Advanced solid tumors			
NOV-7	Novartis	n.d.	Eye disease			
NOV-8	Novartis	n.d.	Inflammation			
NOV-9	Novartis	n.d.	Diabetic eye disease			
NOV-10	Novartis	n.d.	Cancer			
NOV-11	Novartis	n.d.	Blood disorders			
PF-05082566	Pfizer	4-1BB	Advanced malignancies, with avelumab			
			Solid tumors, NHL (+rituximab)			
			Solid tumors, with PD-1i MK-3475			
			Advanced solid tumors, with mogamulizumab			
			Solid tumors, with PF04518600 (OX-40)			
Vantictumab (OMP-18R5)	Oncomed/Bayer	Fzd 7	Solid tumors			
			Metastatc breast cancer			
			Pancreatic cancer (combo)			
			NSCL			

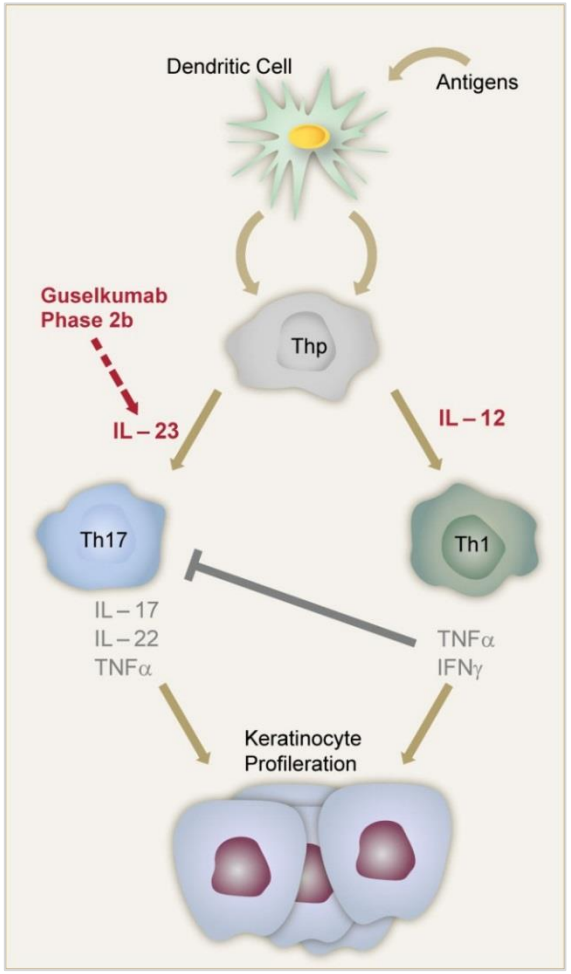
Guselkumab (CNTO1959)
A Janssen Anti-Inflammatory Program

Guselkumab

- A HuCAL antibody specific for IL-23, does not bind IL-12
- IL-23 blockade inhibits production of multiple cytokines beyond IL-17A and preserves Th1 & Treg regulatory pathways
- Being developed in psoriasis and psoriatic arthritis

Current Status

- Six Phase 3 clinical trials ongoing
- First Phase 3 data expected in 2016
- Anticipated filing in 2016

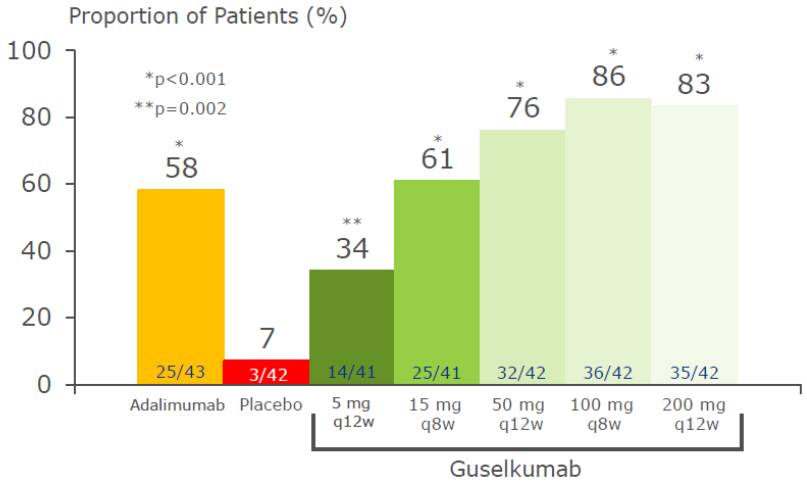


Source: Jetten AM, Nucl Recept Signal, 2009

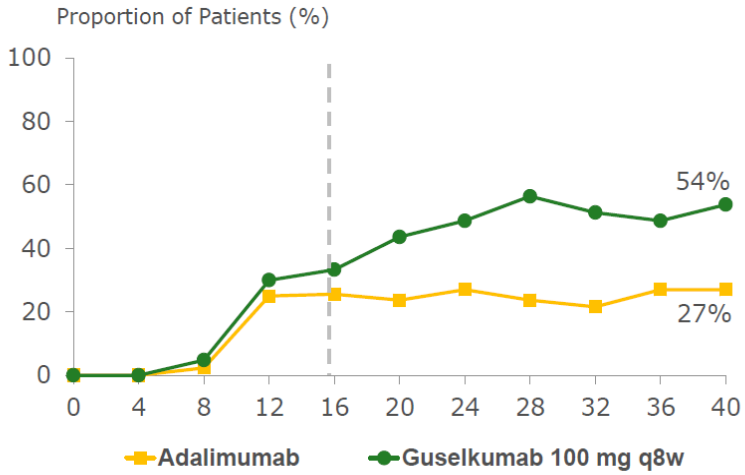
Guselkumab (CNTO1959) Clinical Data

- Highest levels of durable skin clearance with less intensive dosing regimens vs. anti-IL-17 class
- Potential for similar safety profile vs. long-term blockade of IL-12 + 23 with STELARA®
- Potential for long-term, drug-free efficacy

Primary Endpoint: Patients with PGA Scores of Cleared (0) or Minimal (1) at Week 16



PASI 100 through Week 40



Adalimumab: 80 mg at Week 0, followed by 40 mg at Week 1 and q2w thereafter through Week 39.
Duffin, KC, et al. AAD 2014. Late breaker.

Data courtesy of Janssen

Anetumab Ravtansine (BAY94-9343)
A Bayer Anti-Cancer Program

Anetumab Ravtansine

- ADC comprising
  - HuCAL anti-mesothelin G1 antibody conjugated to
  - potent maytansinoid tubulin inhibitor DM4
- In development for mesothelioma & other solid cancers

Pre-clinic

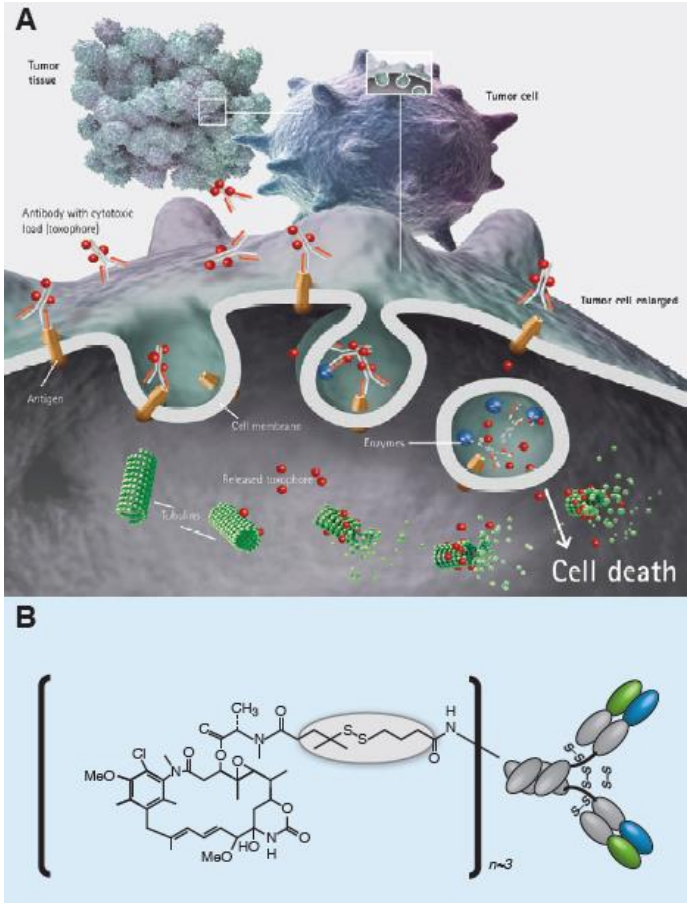
- Anetumab ravtansine potently inhibited growth of human mesothelioma models *in vivo*

Phase 1

- Anetumab ravtansine 6.5 mg/kg IV Q3W was well tolerated and showed efficacy in patients with previously treated mesothelioma

Phase 2

- Started Q1, 2016
- Second-line, malignant pleural mesothelioma
- Estimated enrollment 210

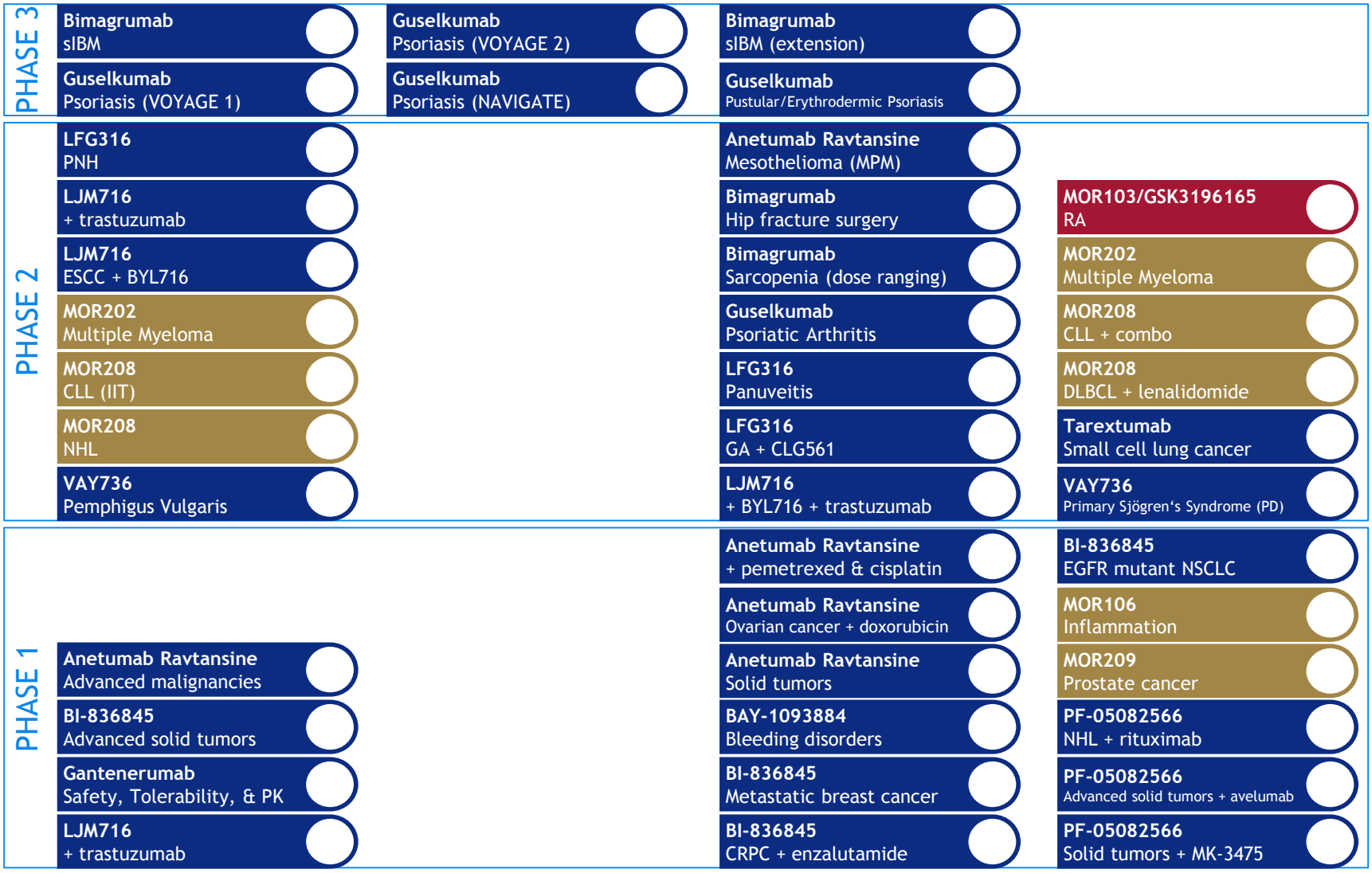


Antibody-drug conjugate anti-tumor therapy
(A) General mechanism of action
(B) Structure of anetumab ravtansine

Data courtesy of Bayer Healthcare

Pipeline Set to Deliver a Lot of Clinical Data

morphosys



Based on published information and MorphoSys estimates

Partnered Discovery Programs | MOR Programs | Outlicensed programs

Powerful Technology Base Ensures Pipeline Sustainability

Innovative Targets

GPCRs, ion channels

HEPTARES therapeutics

G7 Therapeutics

Immune checkpoints

MERCK

MHC-presented, tumor-associated peptides

immatics

Source of novel targets

Universität Stuttgart

Proprietary Platforms

Antibody library

Ylanthia®

Protein optimization

SLONOMICS

Lantipeptides

lanthio pharma
a MorphoSys Company

Financial Guidance 2016

in EUR million	2015A	Q1 2016	Guidance 2016
Group Revenues	**106.2**	**12.1**	**47 to 52**
Proprietary R&D Expenses (incl. Technology Development)	56.6	14.6	76 to 83
EBIT	**17.2**	**-9.7**	**-58 to -68**
Cash, cash equivalents & marketable securities as well as other short-term and long-term financial assets	298.4	287.0	

Coming Up

Bimagrumab	sIBM	Data from pivotal trial and regulatory filing expected	✗
Guselkumab	Psoriasis	Data from 3 pivotal trials and regulatory filing expected	
MOR208	DLBCL	■ Phase 2 lenalidomide combo trial L-MIND starts ■ Phase 2 bendamustine combo trial B-MIND: – Safety evaluation to start mid 2016 – Pivotal study planned for 2017	✓
	CLL	Phase 2 idelalisib combo trial in planning	
MOR202	MM	Updated data from phase 1/2a trial at ASCO 2016	
MOR209	Prostate cancer	Continuation of phase 1 trial under amended protocol, clinical data in 2017	
MOR106	Inflammation	Start of phase 1 with Galapagos in H1 2016	✓
MOR107	Fibrosis	Start of phase 1 in Q4 2016	
MOR103	Osteoarthritis RA	■ Start of phase 1b/2a in osteoarthritis of the hand ■ Data from the phase 2b in RA in 2017	✓
Pipeline		■ Up to 5 new program starts ■ Around 5 clinical milestones	✓ ✓✓✓

Thank You

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