



# BBY Life Sciences Conference



*Dr. Marie Roskrow, CEO & Managing Director  
December 2012*

ASX: PAB

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# Patrys Highlights

*Patrys is an ASX-listed clinical-stage company focussing on the discovery and development of natural human antibodies for the treatment of cancer*

<b>Exciting Antibody (Ab) Platform &amp; Pipeline</b>	<ul style="list-style-type: none"><li><input type="checkbox"/> Unique antibody discovery platform producing Abs ripe for clinical development</li><li><input type="checkbox"/> Strong evidence that Patrys Abs are effective and safe in patients</li><li><input type="checkbox"/> Lead Ab (PAT-SM6) shows significant promise in melanoma and multiple myeloma</li><li><input type="checkbox"/> All Abs recognise novel cancer targets. Ability to generate intellectual property</li><li><input type="checkbox"/> Able to produce Abs to commercial scale</li></ul>
<b>Good News Flow Expected in 2013</b>	<ul style="list-style-type: none"><li><input type="checkbox"/> Clinical data from Phase I/IIa PAT-SM6 multiple myeloma trial</li><li><input type="checkbox"/> Additional preclinical data and publications on Abs and targets</li><li><input type="checkbox"/> Partnering of PAT-SC1</li><li><input type="checkbox"/> Additional collaborations with academic researchers: Data &amp; IP</li></ul>
<b>Good Cash Runway</b>	<ul style="list-style-type: none"><li><input type="checkbox"/> Funded into early 2014. Low monthly burn and streamlined operations</li></ul>
<b>Strong Board &amp; Management</b>	<ul style="list-style-type: none"><li><input type="checkbox"/> Significant experience in developing and commercialising anti-cancer drugs</li><li><input type="checkbox"/> Significant expertise in fund-raising and deal-making</li></ul>
<b>Significantly Undervalued</b>	<ul style="list-style-type: none"><li><input type="checkbox"/> Other clinical-stage Ab companies trading significantly higher than Patrys</li></ul>



# Corporate Overview

## KEY STATISTICS – 30 NOVEMBER 2012 (AUD\$)

Current share price	\$0.041 (\$0.015 - \$0.043)
Shares on Issue	507,362,177
Market Capitalisation	\$20.8 m
Average Daily Volume	~400,000

### Shareholders

Founders/Mgt	25%
Institutional	30%
Retail	45%

Cash (30 Sept. 2012)	\$7 million
Cash Runway	Early 2014

## SENIOR MANAGEMENT AND BOARD OF DIRECTORS

John Read: BSc (Hons), MBA, FAICD: Chairman, CVC Ltd

Marie Roskrow: BSc. (Hons), MBBS (Hons), Ph.D: MD, CEO

Alan Robertson: BSc., Ph.D: Non Executive Director, Pharmaxis Ltd

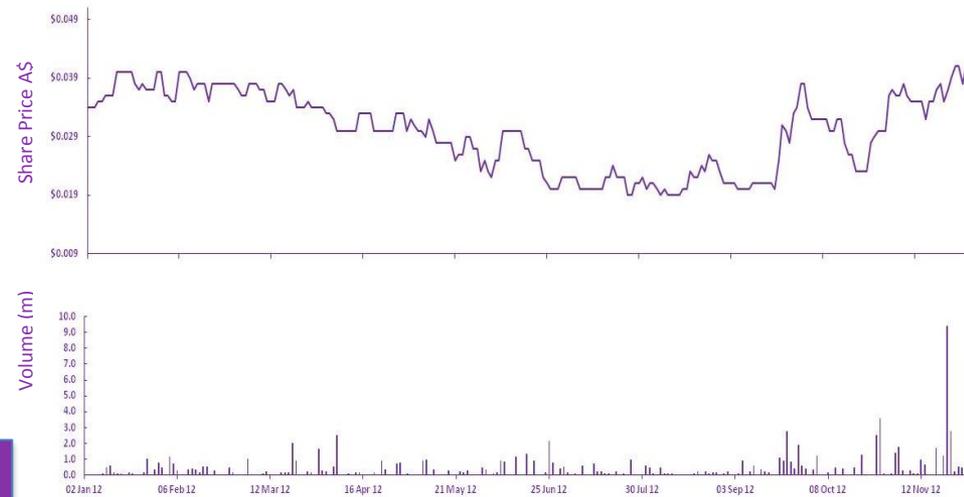
Suzy Jones: Non Executive Director, DNAink

Michael Stork : BBA: Non Executive Director

Roger McPherson: CPA, GAICD: CFO & Company Secretary

Frank Hensel: Ph.D: Vice President R&D

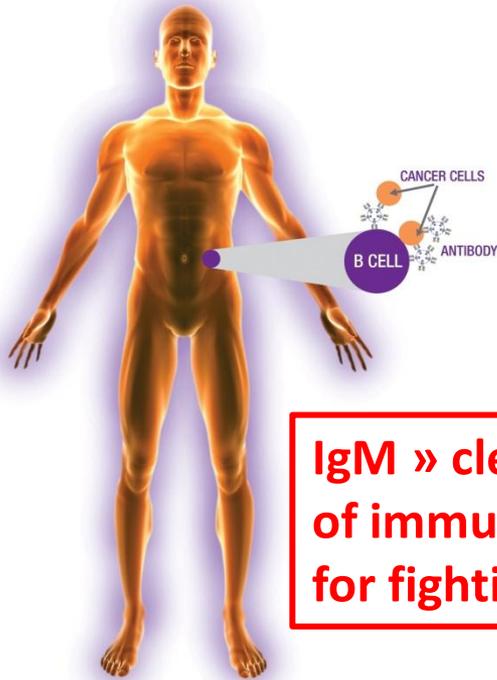
## 2012 SHARE PERFORMANCE



## 2012 NEWS

- Nov. 2012- First patient enrolled in MM Trial in Germany  
Australian Ethics Approval received for MM Trial
- Oct. 2012- Award for preclinical data on PAT-SM6 for MM
- Sep. 2012- PEI Approval received for MM Trial  
PAT-SM6 data published by PLOS
- Aug. 2012 - Capital Raising - \$2.8m
- May. 2012 - Key patent granted for PAT-SM6

# Patrys' Antibody Platform



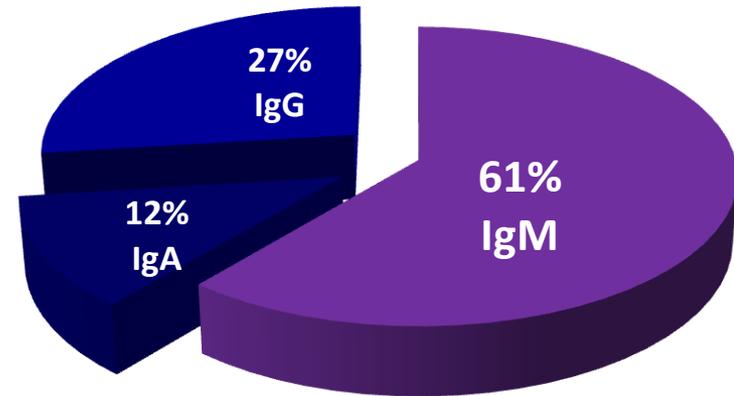
Spleen /  
lymph nodes  
isolated from  
multiple  
patients



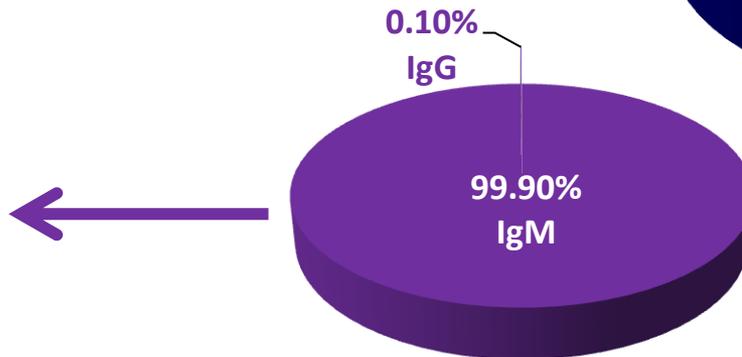
*Proprietary antibody  
capture technology*

**40,000 MAbs Captured**

**IgM » clear choice  
of immune system  
for fighting cancer**



14 products  
evaluated to  
date



Screening Test

**>300 MAbs Passed Screening  
Tests approx. 99.9% are IgM's**

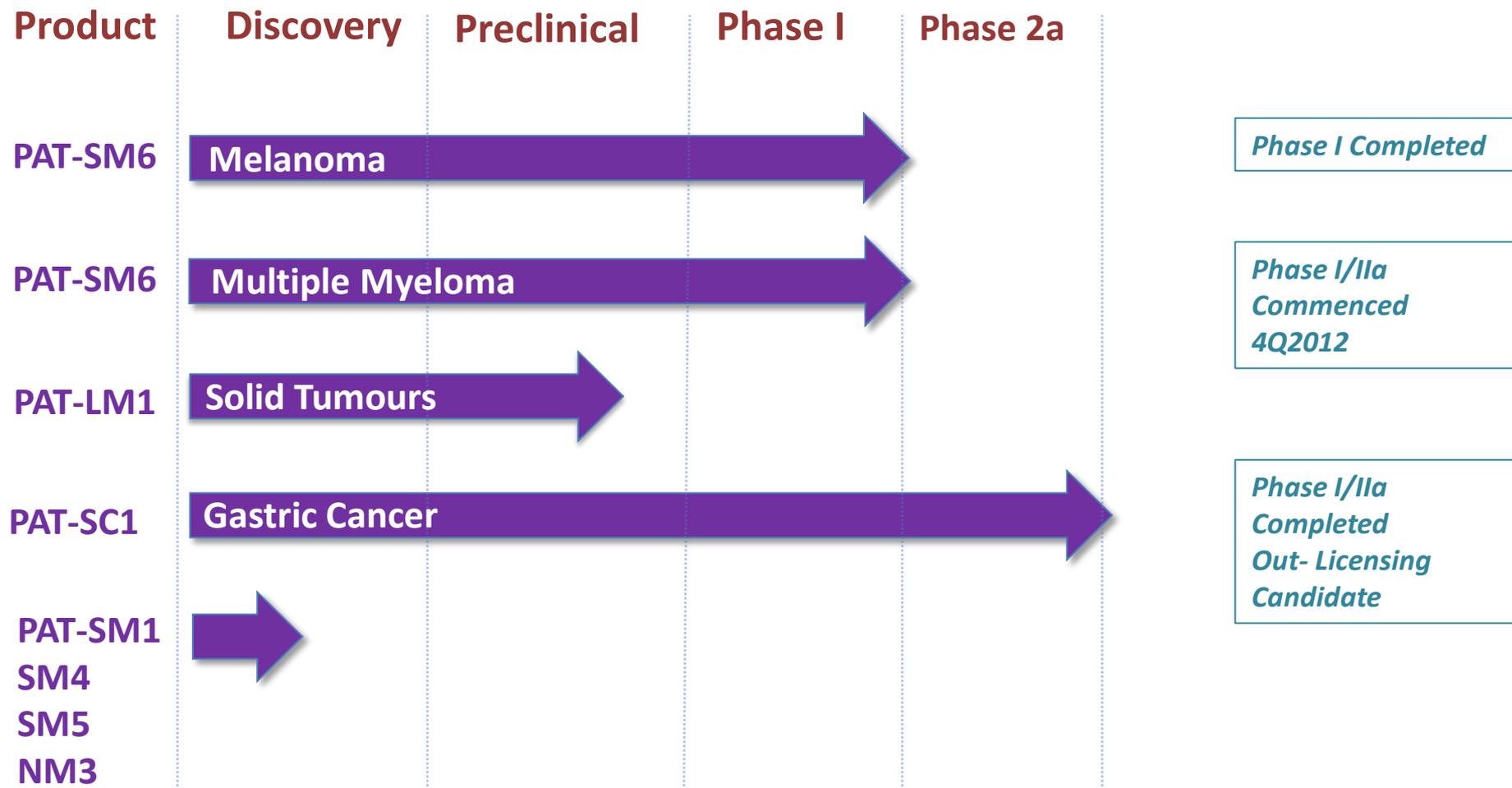


# Key features of the Patrys Antibodies

- Produces IgM antibodies:
  - Body's 1st line of defence as part of innate immune response
  - Large structures capable of binding & killing several tumour cells at the same time
  
- Each antibody produced binds a unique cancer-specific target
  
- Strong evidence of safety and tolerability in patients:
  - PAT-SC1 Phase I/IIa trial in stomach cancer
  - PAT-SM6 Phase I trial in melanoma
  
- Strong evidence of long-term effectiveness in patients:
  - Ten year survival data from first proof-of-concept clinical trial (PAT-SC1 in stomach cancer)
  
- Able to be manufactured to commercial scale
  
- Avoid large royalty stack payable on IgG antibodies



# Pipeline



# Patrys Lead Antibody - PAT-SM6

## PAT-SM6:

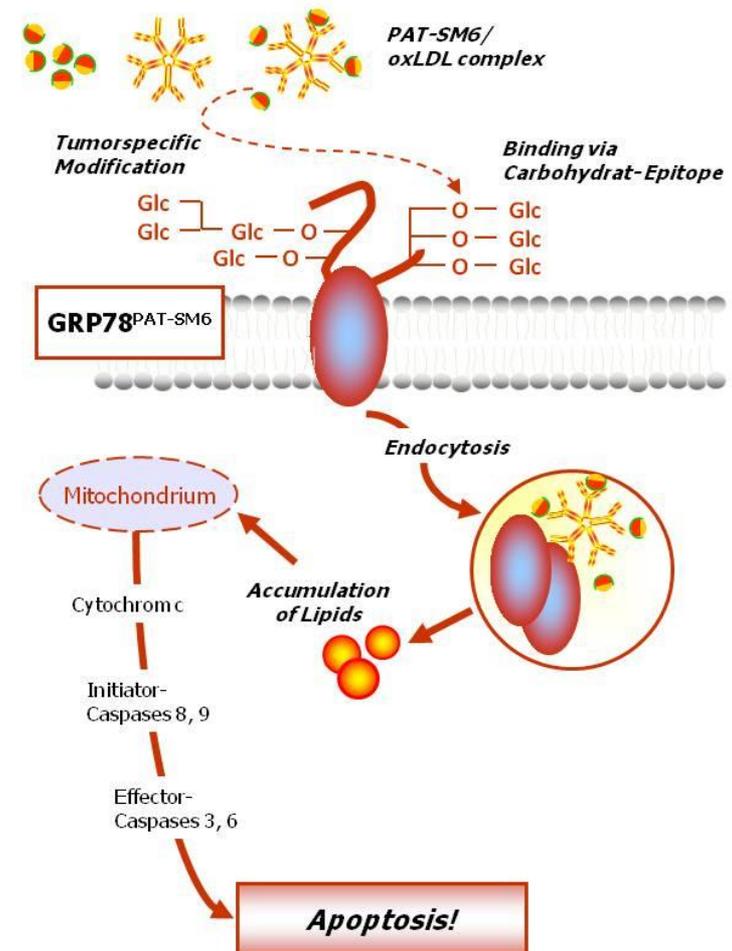
- ❑ IgM isotype,  $\lambda$ -light chain
- ❑ Isolated from stomach cancer patient
- ❑ Recombinantly expressed in PER.C6<sup>®</sup>
- ❑ Targets tumour specific epitope on GRP78
- ❑ Binds also to oxidised LDL and VLDL

## Mode of Action:

- ❑ Internalisation upon binding of oxidised LDL & GRP78<sup>PAT-SM6</sup>
- ❑ Internalisation triggers apoptosis

## In vivo & In vitro Reactivity:

- ❑ Effective in multiple xenograft models
- ❑ Expression data show specific expression in wide range of tumours incl. melanoma and myeloma



- 9 Patients enrolled at Royal Adelaide Hospital and Princess Alexandra Hospital, Brisbane: October 2010 – February 2012

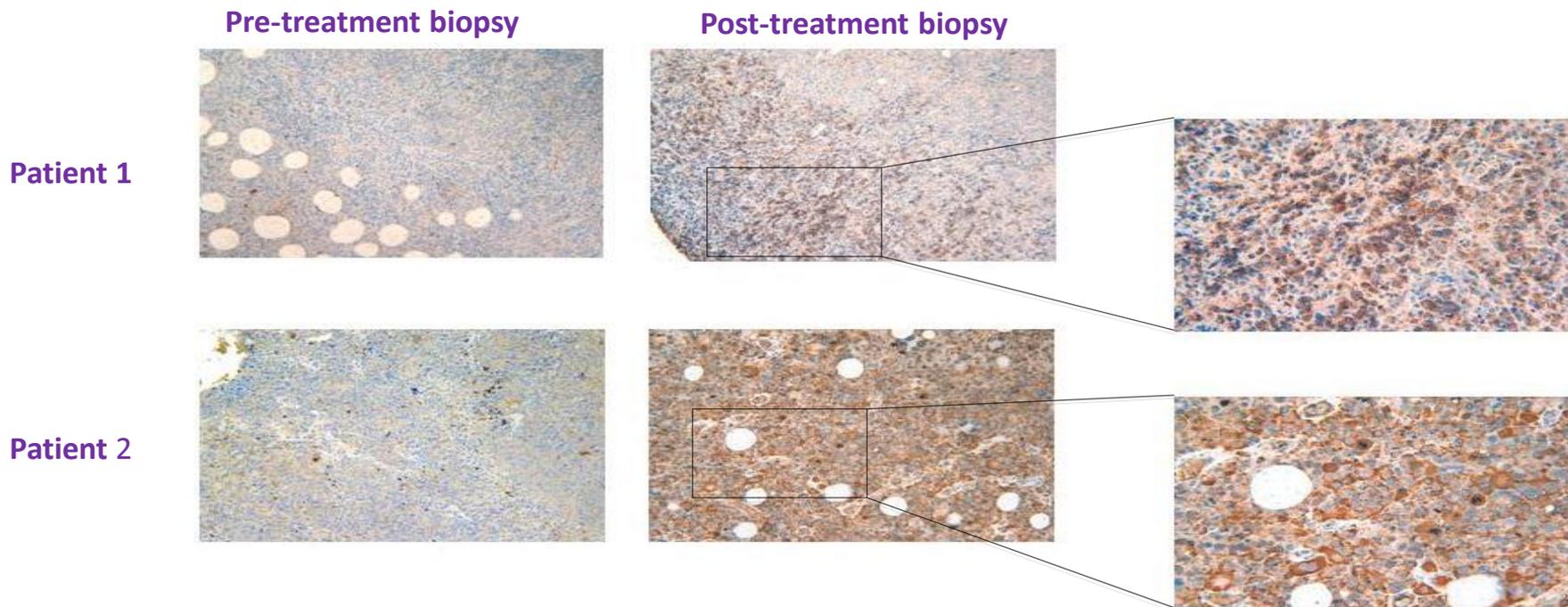
## Primary endpoint:

- No adverse events recorded in any patient

## Secondary endpoints:

- Half-life of 5.7 hours reported (pharmacokinetics)
- No evidence of anti-PAT-SM6 antibodies (immunogenicity)
- Presence PAT-SM6 detected by IHC in 3 post-treatment biopsies
- Cell-death (apoptosis) detected in 2 post-treatment biopsies

# PAT-SM6 Melanoma Trial IHC/Apoptosis



Tumour biopsies were collected pre and post treatment with PAT-SM6, fixed in formalin and embedded in paraffin. An antibody specific for PAT-SM6 (PAT-SM6 anti Idiotypic antibody) was used to detect the infused antibody. Post treatment biopsies show positive staining results, indicating the presence of PAT-SM6 in the tumor



**TUNEL staining; evidence of apoptosis in post-treatment patient biopsy**

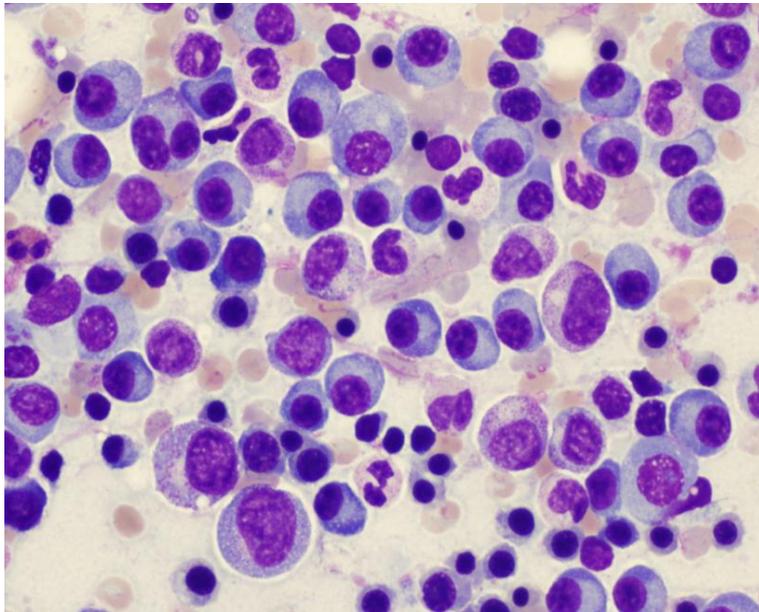
# Multiple Myeloma - Opportunity

- ❑ A cancer of the plasma cells in bone marrow. These cells grow out of control and form tumours in solid bone, cause damage to other organs
- ❑ Estimated to be more than 220,000 cases worldwide and incidence increasing
- ❑ 5 year survival of 29%
- ❑ Market expected to increase from ≈\$4.4B (2011) to >\$7.2B (2021)
- ❑ Market dominated by 3 products:
  - Revlimid (net sales \$3.2B in 2011)
  - Velcade (net sales \$692M in 2011)
  - Thalidomide (net sales \$339M in 2011)
- ❑ Several MABs currently in clinical development but none approved to date. Likely to be used in combination therapies
- ❑ Significant interest in MM from both large pharmaceutical and biotechnology companies

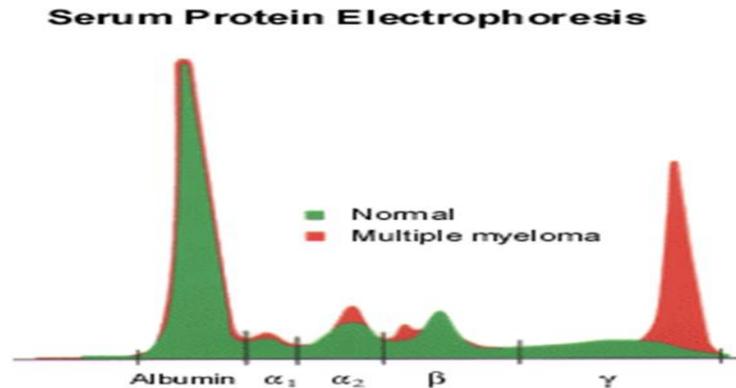


# Multiple Myeloma - Pathology

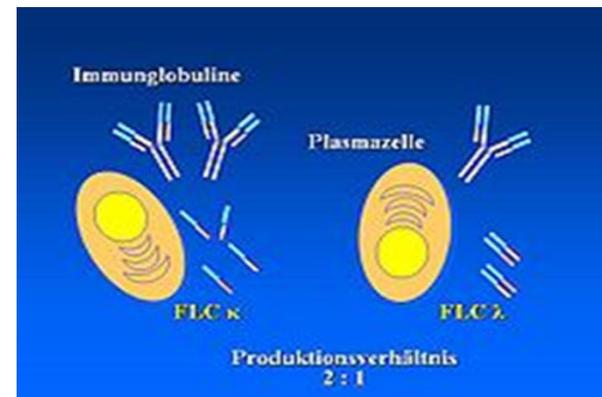
- ❑ Abnormal plasma cells (myeloma cells) secrete lots of “useless” antibodies (M proteins)
- ❑ Myeloma cells crowd out other blood cells resulting in anaemia, thrombocytopenia (bleeding) and leucopenia (infections)



- ❑ Monoclonal gammopathy detected by electrophoresis

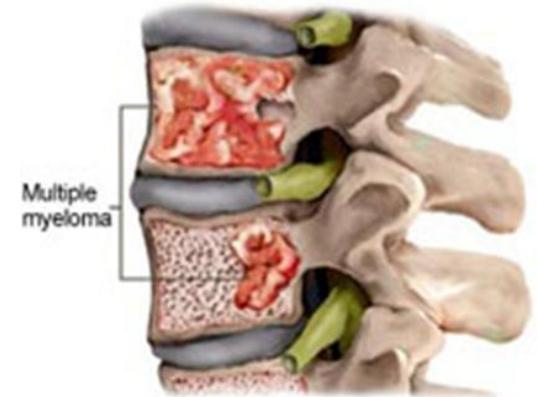
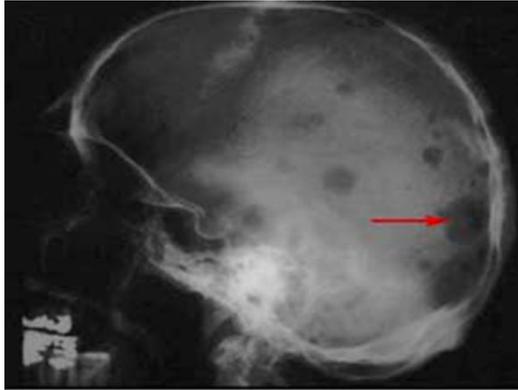


- ❑ Abnormal proteins (Bence Jones) detected in urine



# Multiple Myeloma - Presentation

## ❑ Bone disease and hypercalcaemia



# Multiple Myeloma - Presentation

## ❑ Evidence of bone marrow failure



## Proteasome inhibitors

- Bortezomib (Velcade)
- Carfilzomib (Kyprolis)

## IMiDs

- Lanalidomid (Revlimid)
- Thalidomide

## Chemotherapeutics

- Melphalan
- Cisplatin
- Cyclophosphamide
- Doxorubicin

## Stem cell transplantation

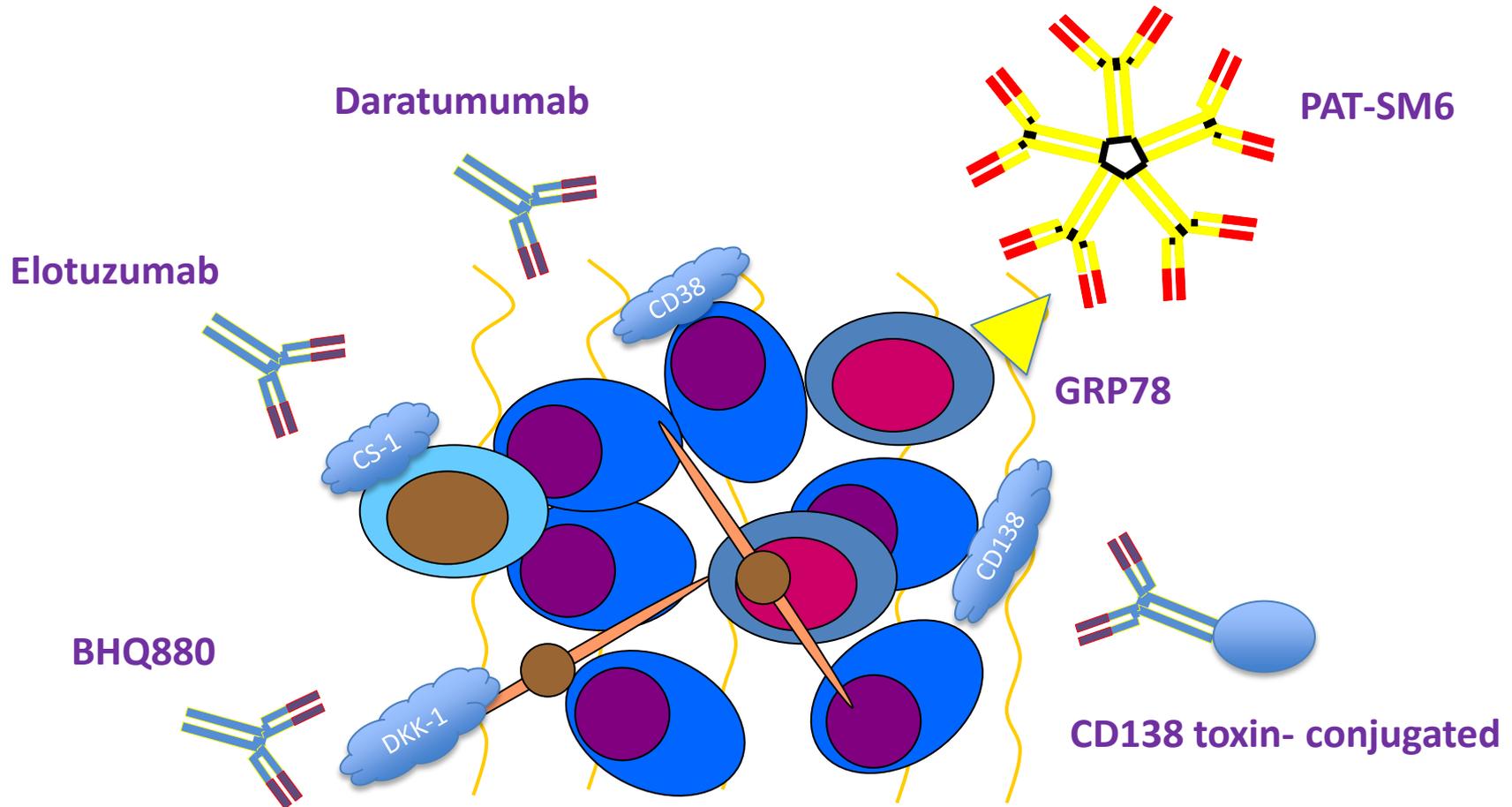
- Autologous
- Allogeneic

## Clinical studies

- Small molecules
- Antibodies, peptides



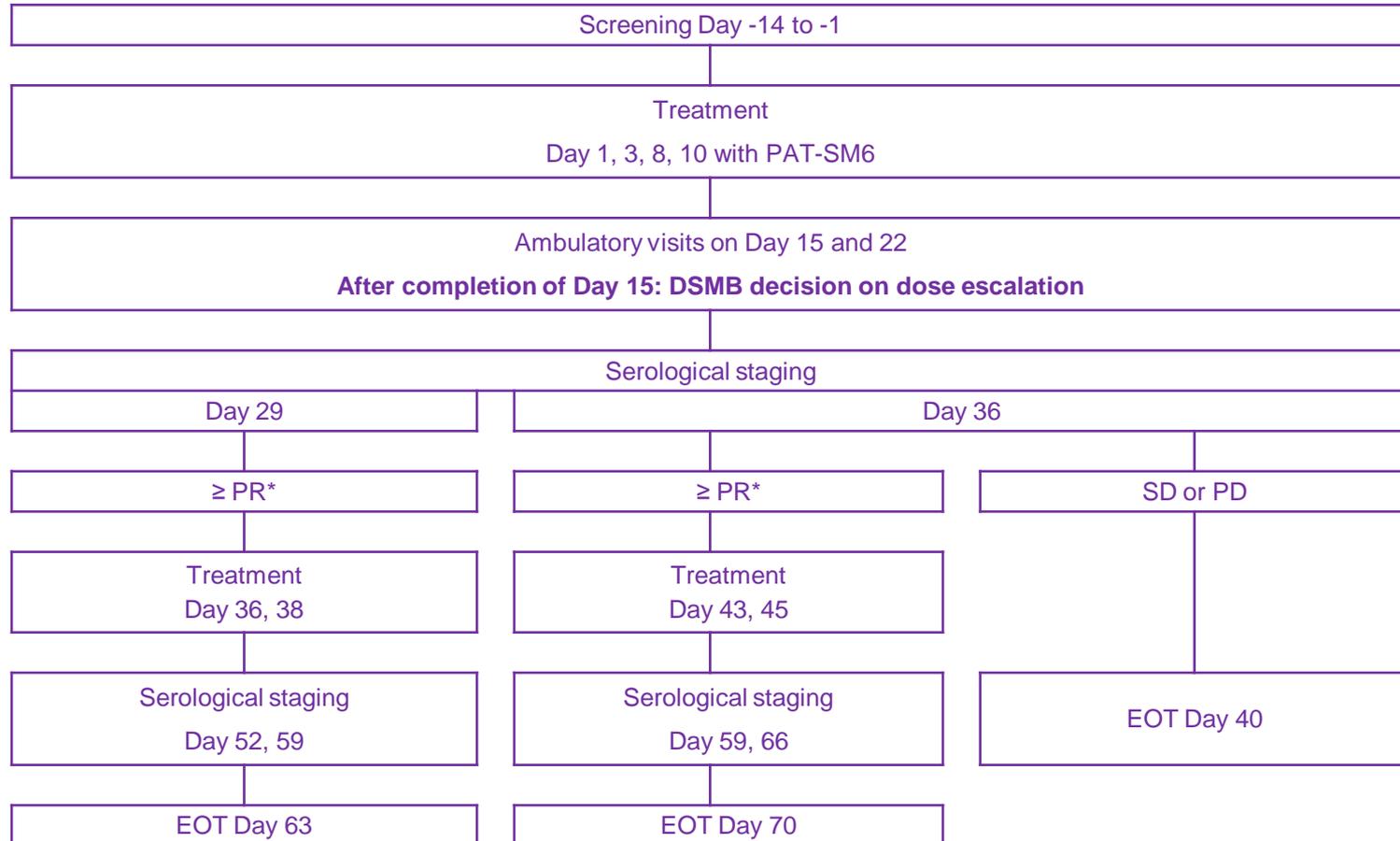
# Antibodies in Clinical Trials for MM



Antibodies in all stages of clinical development



# Phase I/IIa PAT-SM6 Multiple Myeloma Study Design



PR = Partial Response  
SD = Stable Disease

PD = Progressive Disease  
EOT = End of Trial Visit

\*If a subject shows  $\geq$  PR after 4 doses (2 cycles), option to offer +2 doses (1 cycle) more



# Projected Clinical Trial Timelines

- ❑ First patient enrolled Nov. 7<sup>th</sup>, 2012
- ❑ Data from 1<sup>st</sup> cohort expected 1Q2013
- ❑ Full recruitment expected within 12 months
- ❑ Data to be released on a “rolling” basis



- ❑ Positive Phase I/IIa MM clinical trial data + existing positive Phase I melanoma data + extensive preclinical package:

## *Option 1: Do a deal*

- ❑ Genmab / J&J Janssen Biotech Daratumumab (anti-CD38): Phase I/IIa
  - ❑ Total deal worth up to \$1.135B announced August 2012
    - ❑ Upfront \$55M
    - ❑ Milestones \$1B
    - ❑ Equity \$80M
    - ❑ Double digit royalties

## *Option 2: Don't do a deal*

- ❑ Raise significant cash and continue clinical development alone



# Plans for 2013

- Execute PAT-SM6 Phase I/IIa open-label multi-dose multiple myeloma clinical trial
- Continue preclinical work with PAT-SM6 and multiple myeloma (animal models, drug combination studies)
- Expand external collaborations around all programmes to generate new data and intellectual property
- Publish 3-4 academic papers in peer-reviewed journals
- Continue out-licensing of PAT-SC1
- Continue preclinical development of PAT-LM1 and other, earlier stage, antibodies



# For Further Information

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