Alchemia

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Alchemia Limited (ASX:ACL)

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Agenda

- **Corporate Overview**
- HyACT Platform
- HA-Irinotecan
- Non-Oncology Assets
- Summary

Alchemia – A Compelling Value Proposition

One of Australia's Largest Biotechs	○ ~US$175M market cap ○ Compelling value proposition: Transformative late-stage oncology asset and approved product generating cash flow
Transformative 2014 Catalyst	○ Lead oncology asset, PIII HA-Irinotecan in mCRC ○ On track to reach its primary endpoint in 1H CY2014
Oncology HyACT Platform	○ Highly differentiated CD44 mediated mechanism ○ Broad applications: Across tumor types and across therapeutics
Focus on Commercial Execution	○ ~40,000 mCRC US patients treated per year with FOLFIRI/Irinotecan, representing $1B+ opportunity ○ Focused on FDA submission and on preparing for commercialization
Solid Track Record of Innovation	○ Fondaparinux, VAST, HyACT oncology platform ○ Attracting world-class partners

Corporate and Financial Summary

Alchemia

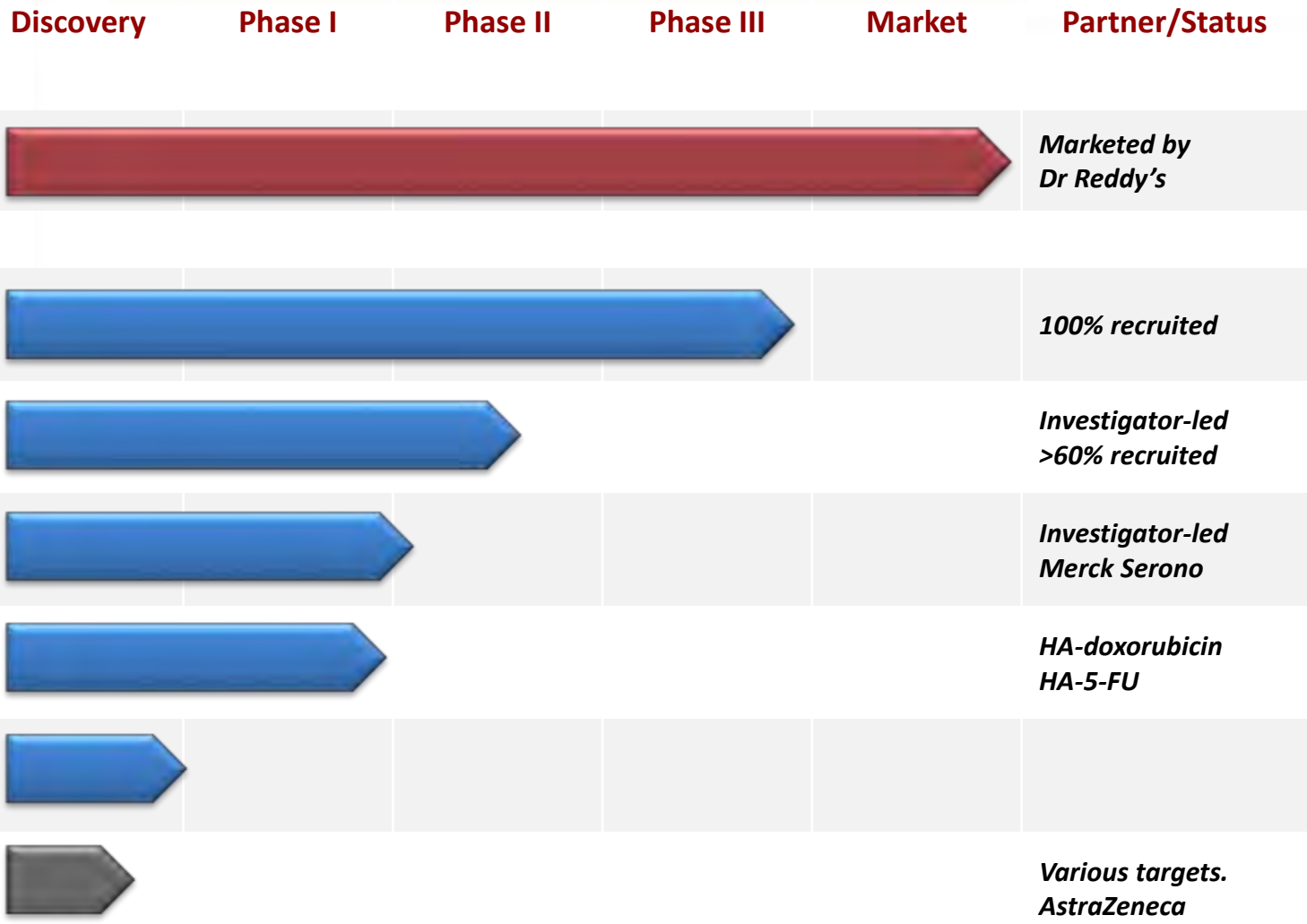
Financial and Capital Structure

- **Market capitalization (Feb 28, 2014)** — **US$175M (A$193M)**
- **Current Share price (Feb 28, 2014)** — **A$0.595**
- **Cash on hand (Dec 31, 2013)** — **US$15M (A$16.4M)**
- **No debt**
- **Capital structure**
  - Ordinary shares outstanding — 324,410,203
  - Options outstanding — 9,349,666
  - Fully diluted — 333,759,869

Corporate

- **Recent appointments of Santo Costa (Chairman) and Thomas Liquard (CEO) reinforce ACL focus on US commercial execution with deep experience in:**
  - US oncology/market
  - Commercial execution models
  - 505(b)(2)

Pipeline



DVT is deep vein thrombosis
PE is pulmonary embolism

mCRC is metastatic colorectal cancer
SCLC is small cell lung cancer

Cardiovascular *Oncology* *Various Therapies*

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- **HyACT Platform**
- HA-Irinotecan
- Non-Oncology Assets
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HyACT Platform Overview

Unique Dual Mechanism of Action

- HyACT targets tumor cells through **unique dual mechanism of action**
  - Drug depot formation around cancer cells increasing the concentration and exposure to drug
  - CD44 Targeting - Hyaluronic acid directly binds to cancer target CD44, triggering internalization of HyACT drug resulting in up to 1000x more anti-cancer drug in tumor cells

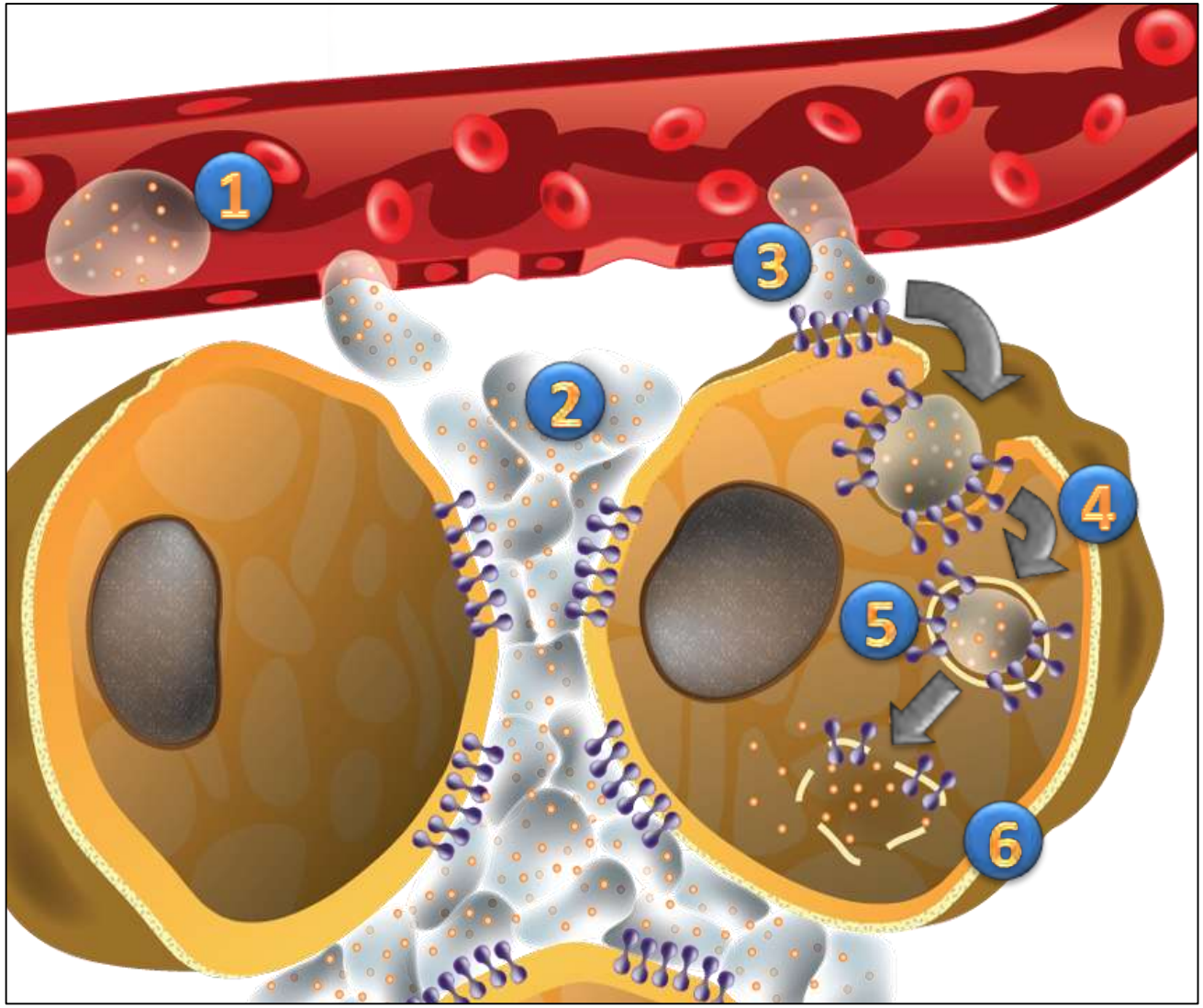
Broad Applications

- **Additive** to existing chemotherapeutics without altering their administration or safety
- Platform formulation technology with potential to generate additional assets across broad range of:
  - **Oncology targets** and;
  - **Therapeutics** including chemotherapies and targeted biologics

Transformative

- **505(b)(2) Pathway** - HyACT drugs pose lower risk of development compared with a "new chemical entity," while still targeting similar pricing
- **Lead HyACT product candidate, HA-Irinotecan, is in a pivotal Phase III clinical trial**

HyACT Dual Mechanism of Action



1. Entry to tumor environment through leaky vasculature
2. HyACT-targeted drug forms ‘depot’ in tumor microenvironment
3. Binds with high avidity to activated CD44
4. Binding induced endocytosis
5. HyACT-targeted drug held within lysosome
6. Breakdown of HyACT and vesicle to release drug internally

CD44: An Important Target in Solid Tumors

CD44 Expression in Solid Tumors

Cancer Type	Normal tissue	% of Tumors with	
Cancer Type	Activated CD44	Activated CD44s	Activated CD44v6
Breast	0	>50%	100%
Colorectal	0	>70%	>80%
Malignant mesothelioma	0	100%	100%
Lung	20% (alveolar macrophages)	91-100%	90%
Prostate	0	78%	>60%
Skin (BCC, SC, melanoma)	100% (keratinocytes)	>70%	>90%
Endometrial	0	>80%	>50%
Pancreatic	0	70-100%	100%

MOA Supporting Rationale

- CD44 is upregulated in solid tumors
- CD44 is the primary receptor for hyaluronic acid
- Binding triggers internalization of HyACT drug resulting in up to 1000x more anti-cancer drug in tumor cells

Agenda

- Corporate Overview
- HyACT Platform
- **HA-Irinotecan**
  - **PII Highlights**
  - **PIII Program**
  - **Commercial Value Proposition**
  - **Potential additional indications**
- Non-Oncology Assets
- Summary

Phase II: HA-Irinotecan Metastatic Colorectal Cancer (mCRC)

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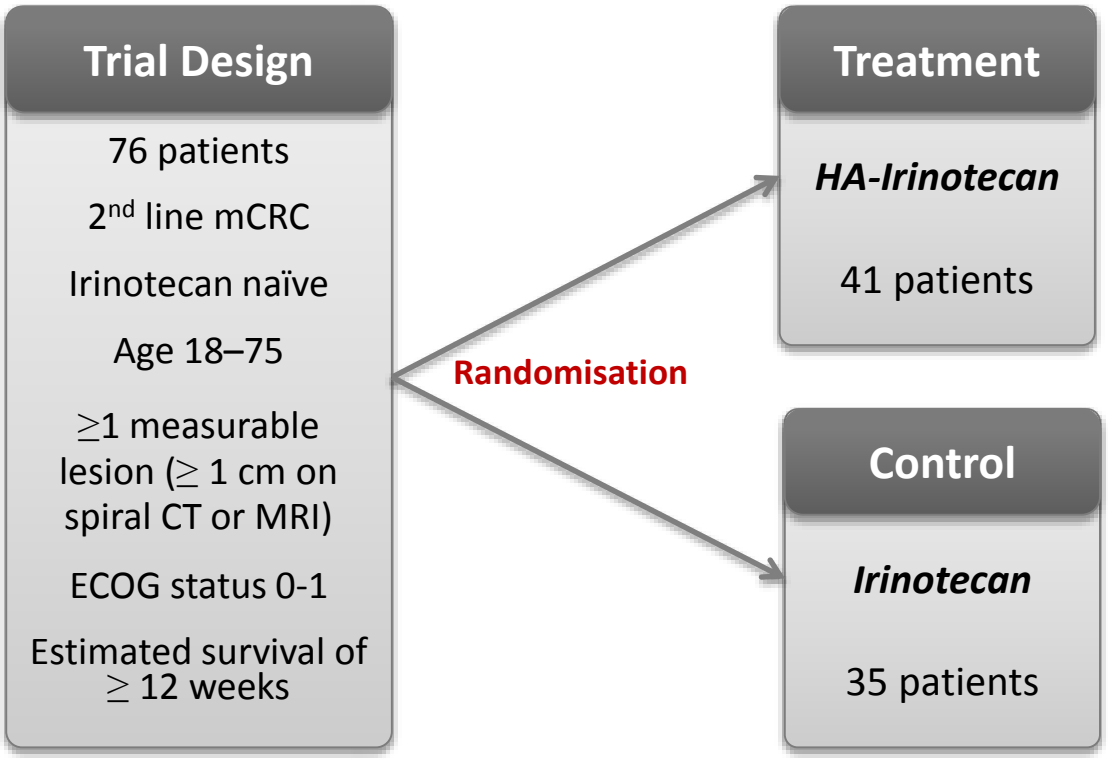
Gibbs et al. Cancer Chemother. Pharmacol. Mar 2010

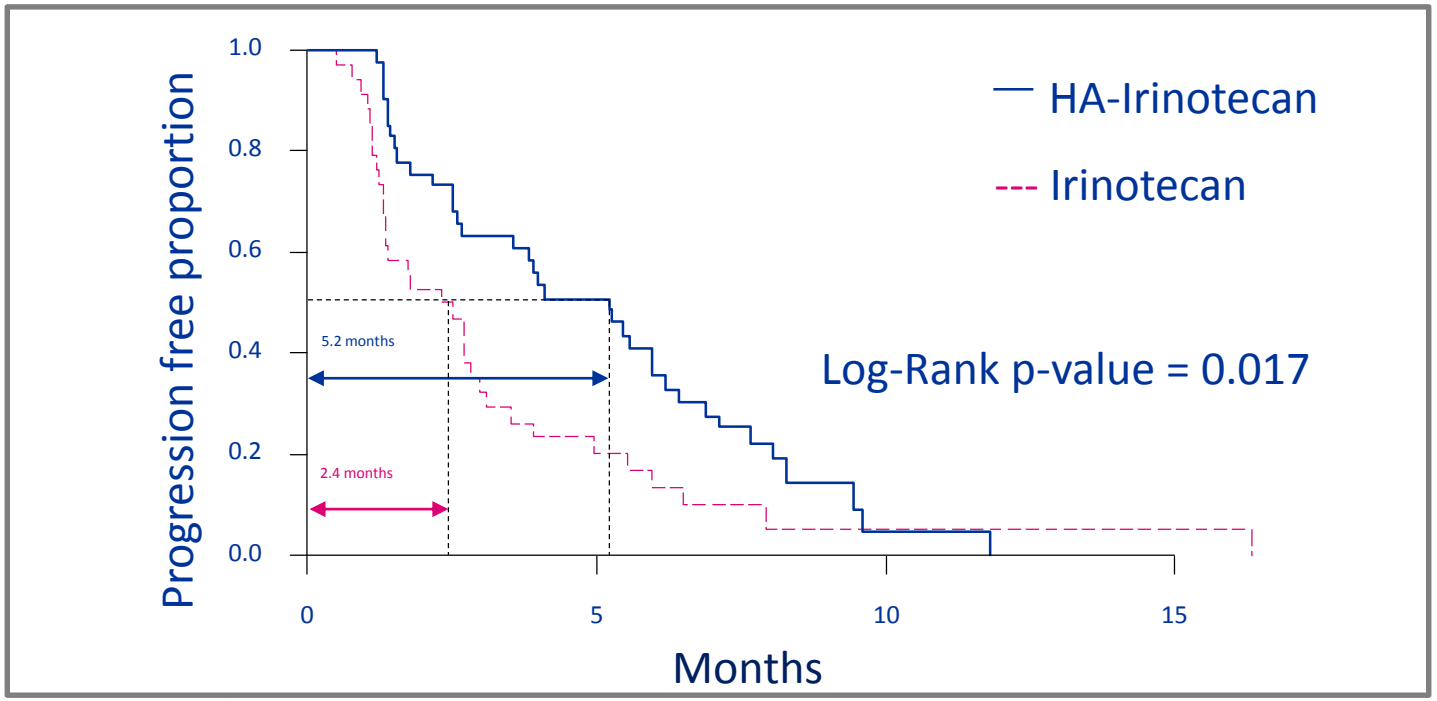
HA-Irinotecan provided 12 week extension in median PFS with no change in safety, dosing schedule or PK compared with irinotecan alone



		1^0	2^0		
Safety		PFS (mths)	TTF (mths)	OS (mths)	Median # cycles
Equivalent		5.2	4.0	10.1	6
		2.4	1.8	8.0	2

Phase II: 12 Weeks Improvement in Median PFS Is Encouraging

Statistically significant increase in median Progression Free Survival (PFS) of 5.2 vs. 2.4 months (p=0.017)



Other Key Results

- Hazard ratio for PFS of 0.56 (p=0.019)
- Increase in DCR (76% vs. 46%, p=0.053)
- Trend towards increased overall survival (10.1 vs. 8 months) (p=0.196)
- Longer Time to Treatment Failure (4.0 months vs. 1.8 months) (p=0.007)
- HA-Irinotecan patients treated for significantly more cycles (six vs. two) (p=0.005)
- No significant increase in toxicity was observed

Note: DCR = Disease Control Rate

Pivotal Phase III: HA-Irinotecan in mCRC

ClinicalTrials.gov Identifier: NCT01290783

Trial is 85% powered to detect ≥6 week extension in median PFS (p=0.05)
415 patients –over enrolment improves power, primary endpoint expected in 1H CY2014

Trial Design

- **Double-blinded, active controlled**
- **Superiority trial**
- **N= 390; 2nd/3rd line mCRC**
- **Irinotecan-naïve**
- **WW, multi-center (76 centers*)**
- **Follow up period: a minimum of 30 mo post-randomization**
- **Successfully completed four DSMB safety evaluations**
- **No interim analysis for efficacy**

Randomization 1:1

Experimental

FOLF(HA)iri
(HA-Irinotecan administered with leucovorin and 5-FU as part of FOLFIRI regimen)

50% Patients

Active Comparator

FOLFIRI
(currently most common chemotherapy for mCRC)

50% Patients

*** 76 centers in Australia; Eastern EU and Western EU**

mCRC Represents a Large Commercial Opportunity

- **mCRC is one of the most common cancers in the world:**
  - Over 1.2 million new cases diagnosed annually[1]
  - Second leading cause of cancer deaths in the US, claiming more than 50,000 lives each year[2]
- **Target endpoint for the HA-I PIII trial is at least 6 weeks improvement in median PFS**
- **Median PFS improvements from other commercial pharmaceuticals:**
  - Avastin – (2nd line mCRC) median PFS improvement of 10.5 weeks
  - Erbitux – (1st line mCRC) median PFS improvement of 6.5 weeks

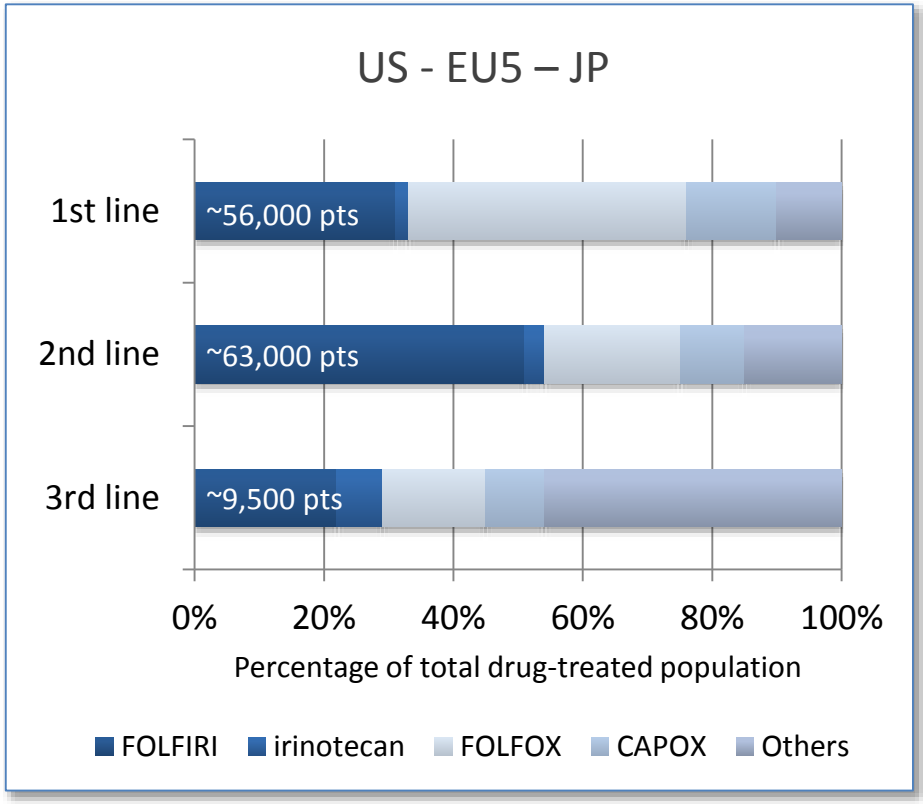
2013 total sales of ~$7B (includes other cancers)*

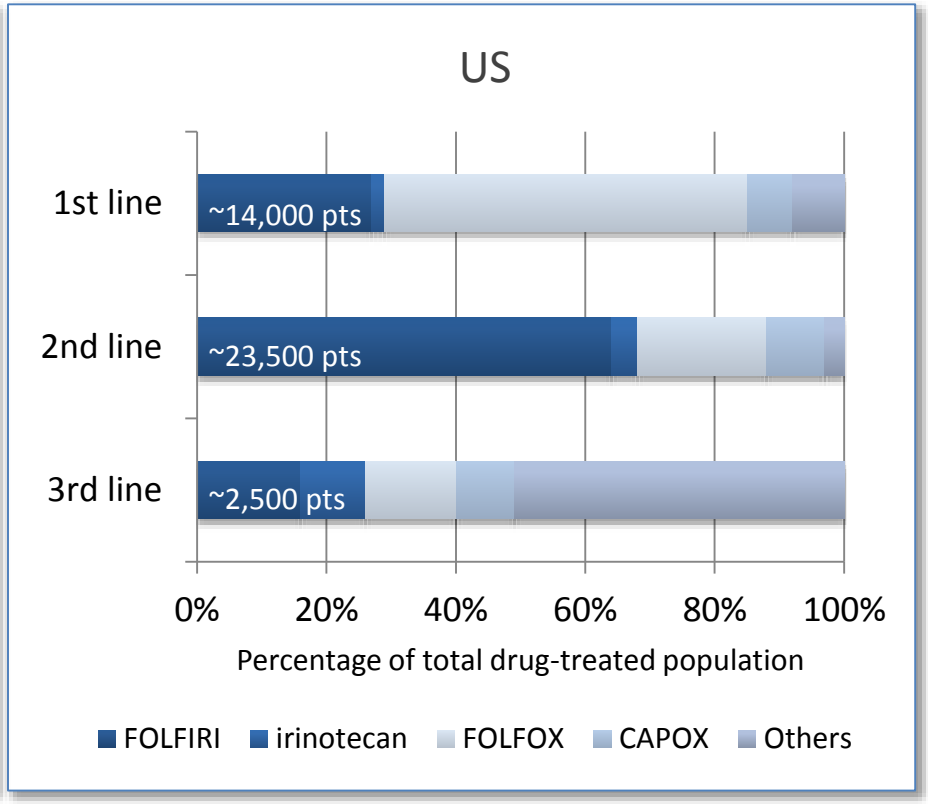
2012 total sales of $1.15B (includes other cancers) *

•Source: Roche 2013 Annual Report; EMD 2012 Annual Report; (1) WHO, IARC GLOBOCAN, Cancer Incidence and Mortality Worldwide in 2008 at http://globocan.iarc.fr/. Accessed February 21, 2014; (2) http://www.cancer.gov/cancertopics/pdq/prevention/colorectal/HealthProfessional/page3. Accessed February 21, 2014.

FOLFIRI / Irinotecan Utilization in mCRC Suggests a $1B+ Opportunity for Alchemia

Chemotherapy use by Line of Therapy





Irinotecan is widely used across all lines in mCRC either as part of the FOLFIRI regimen (irinotecan plus 5-FU and leucovorin), with/out targeted therapies or as a single agent

Patient numbers are FOLFIRI treated patients only

Source: Decision Resources, 2012

HA-Irinotecan – Other Phase II Investigator-Sponsored Trials

- **Small Cell Lung Cancer (SCLC)**
  - 27 patients out of targeted 40 patients recruited to investigator-sponsored Phase II trial
    - 2 trial sites in Australia
  - Primary endpoints are safety and clinical activity
    - Safety measured by the incidence of grade 3 or 4 toxicity
    - Clinical activity of HA-Irinotecan combined with carboplatin
  - Early encouraging signs of clinical activity of HA-Irinotecan combined with carboplatin

- **'CHIME' Trial: Cetuximab + HA-Irinotecan in Metastatic Colorectal Cancer**
  - Joint funded investigator sponsored Phase II trial using HA-Irinotecan in FOLFIRI regimen administered with Merck Serono's Erbitux
  - Primary endpoint is safety, with several efficacy secondary endpoints
  - First patient expected in 1H 2014

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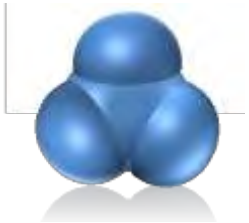
VAST® (Versatile Assembly on Stable Templates)

Classical pharma small molecule shapes

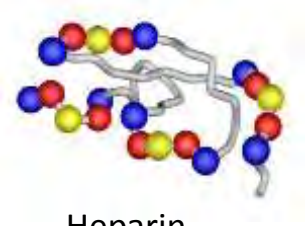
VAST shapes



- Drug discovery technology with an array of diverse compound shapes
- Proven platform, enabling the development of a commercial manufacturing process for fondaparinux
- Financially efficient with a focus on productivity through partnerships and grants
- $240M strategic collaboration with AstraZeneca (April, 2013)
- Grant funding to support internal collaborative drug discovery programs
- Other academic collaborations in oncology, pain and allosteric modulation

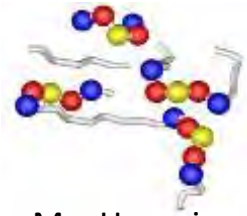
Fondaparinux: High Value Sterile Injectable Generic

Heparin-based Anti-coagulants



Heparin

Fractionate

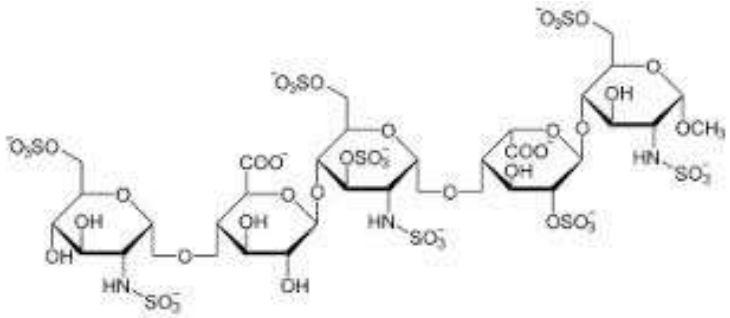


Low Mw Heparin

Synthesize

Heparin Fragment
(Fondaparinux)

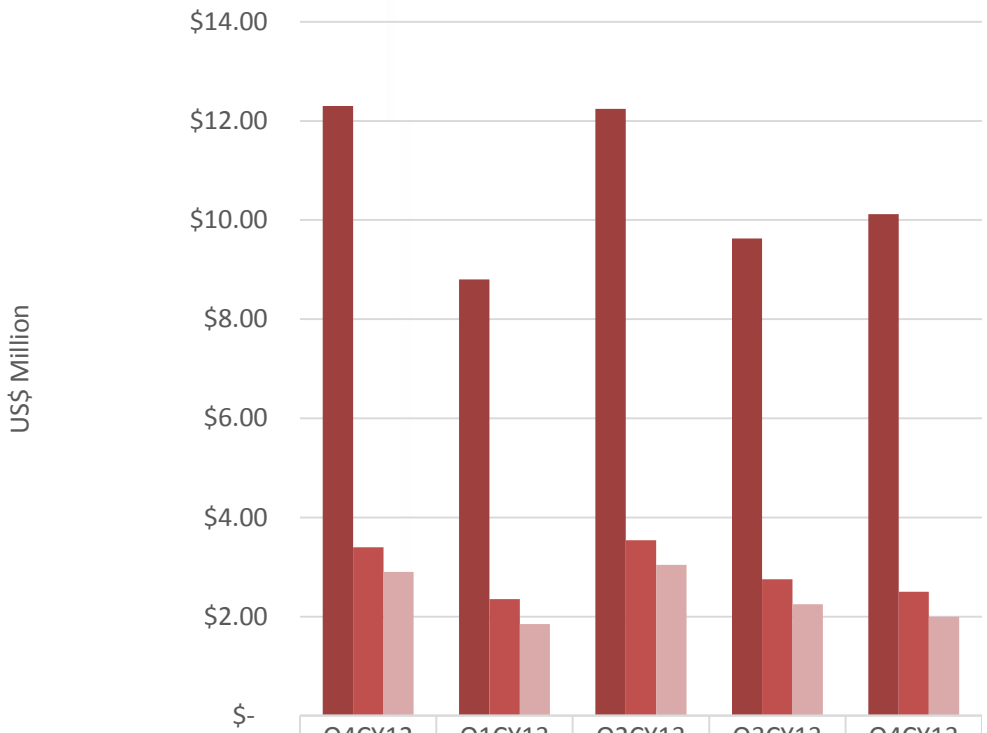
Fondaparinux:
Not a typical generic



- Very difficult to synthesize: 60+ steps
- Even more difficult to scale up to production level
- Patent protection for synthetic route – expiry 2023
- Sole independent generic on the market alongside Arixtra® (GSK, now Aspen) & Apotex Authorised Generic

Fondaparinux Financial Performance (US$)

Financial Results (Q4CY12 – Q4CY13)



	Q4CY12	Q1CY13	Q2CY13	Q3CY13	Q4CY13
DRL Net Sales	$12.30	$8.80	$12.24	$9.63	$10.12
ACL Profit Share	$3.40	$2.35	$3.54	$2.75	$2.50
ACL Net Profit Share	$2.90	$1.85	$3.04	$2.25	$2.00

** Source: IMS*

Discussion

- Dr Reddy's Market Share
  - ~33% market share of total market (retail + institutional)
  - ~50% market share of retail segment
- ACL Profit share of between US$2.35M and US$3.40M to Alchemia per quarter
  - ACL Net profit share deducts ACL contribution of US$0.50M per quarter toward yield and cost of goods improvement activities,
  - Contribution ends on Dec 31, 2014
- September 30, 2013: Aspen acquired rights to GSK's injectable thrombosis brands, including Arixtra, and its manufacturing facility for $970M

Fondaparinux – 2014 Key Activities

- **Continued competitiveness of Dr Reddy's marketing efforts in the US**
- **Continued improvements in manufacturing costs**
  - Economies of scale and process improvements
  - Expiry in December 2014 of Alchemia's agreement with Dr Reddy's to contribute $0.5M per quarter for process and production improvements (as announced September 2012)
- **Profit share derived from ROW sales**
- **Pursuing options to best create shareholder value, including assessing the potential monetization of fondaparinux**
  - De-risks asset and provides potential upside for shareholders

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2014 Potential Catalysts*

- **Oncology (HyACT assets)**
  - ***PIII HA-I trial in mCRC expected to reach its primary endpoint in 1H CY2014***
  - Potential NDA filing for HA-Irinotecan for mCRC in 4Q2014 – 1Q2015
  - Potential partnership for HA-Irinotecan
  - Potential launch of new HyACT-enhanced chemotherapy clinical trials

- **Fondaparinux**
  - Continued improvements in manufacturing costs
  - New regulatory approvals and launches in new markets by Dr Reddy's

- **VAST**
  - Potential for additional VAST collaborations with pharmaceutical companies

** Note that the contents of this slide does not constitute formal guidance and you are advised to review the disclaimer contained herein*

Opportunity Summary

- **Strong drug development company entering transformative 2014**
  - Strong financial position
  - First product already developed, launched and generating free cash flow, currently funding internal R&D
  - Platform technologies proven to deliver new products
  - Established global Pharma partners

- **Significant near-term catalyst with PIII HA-I trial in mCRC expected to reach its primary endpoint in 1H CY2014**

- **Management team focused on executing on large mCRC commercial opportunity and on further developing the HyACT portfolio**

Alchemia

Thomas Liquard
Chief Executive Officer
tliquard@alchemia.com.au

Dr Tracey Brown
Chief Scientific Officer (Oncology)
tbrown@alchemia.com.au

Rosemary Cummins: AUS
Investor Relations
rcummins@alchemia.com.au

Hershel Berry: US-West Coast
Investor Relations
hberry@bplifescience.com

Malini Chatterjee: US-East Coast
Investor Relations
mchatterjee@bplifescience.com

Senior Management

- **Thomas Liquard – Chief Executive Officer**
  - Joined Alchemia in 2013 as COO
  - Most recently was Sr Director, Portfolio Development for the Emerging Markets group at Pfizer NY where he spent 7 years in various commercial roles
  - Deep experience across the Pharma industry value chain, from clinical development to late stage commercialization, and across multiple therapeutic areas including oncology
  - Experienced in business development transactions (licensing, M&A), new product planning, portfolio development and commercialization for both 505(b)(2) and NCE assets

- **Tracey Brown, PhD – Chief Scientific Officer, Vice President of Oncology**
  - Brings 28 years of relevant research in biochemistry and therapeutic applications of carbohydrates
  - She is responsible for the evaluation of lead compounds from both Alchemia's discovery and HyACT programs where her primary role is to take the potential therapeutics into non-clinical development, clinical development as well as executing on the regulatory strategies
  - Inventor of HyACT platform and responsible for development of multiple drugs from conception through successful clinical application
  - Responsible for overseeing all of Alchemia's oncology discovery, clinical development and regulatory

- **Wim Meutermans, PhD – Head of Discovery**
  - Joined Alchemia in 2000 and directly responsible for all small molecule drug discovery projects
  - 20 years of experience in all non-clinical aspects of drug discovery and one of key inventors of the VAST platform
  - Obtained PhD from Katholieke Universiteit Leuven in Belgium

- **Imran Ahamed, CPA – Group Financial Controller**
  - Appointed Group Financial Controller in February 2013, following one year as Alchemia Oncology's Financial Controller
  - Brings 20+ years of accounting and finance experience to Alchemia, having held senior finance positions in investment banking, manufacturing, retail and wholesale sectors in Asia, Southern Africa, the Middle East and Australia

Board of Directors

Santo Costa, JD – Chairman

- Brings 30 years of extensive international experience serving in senior leadership roles across the life sciences industry
- Previously COO of Quintiles Transnational Corp—responsible for all operating divisions
- Former Sr Vice President, Administration and General Counsel of Glaxo, Inc; Sat on the Company's Board of Directors and Executive Committee.
- Currently counsel to the law firm Smith, Anderson, Blount, Dorsett, Mitchell & Jernigan in Raleigh, North Carolina and Adjunct professor of clinical research at Campbell University School of Pharmacy.

Nathan Drona

- Brings a fifteen year career in international investment banking, most recently as Managing Director of Challiss in New York and Sydney.
- Chairman of Alchemia's Nominations Committee, a member of Alchemia's Audit & Risk and Remuneration Committees, and previously served as Alchemia's interim Chairman from July 2013 to March 2014.
- Experienced in corporate finance and has executed more than 25 global banking and M&A engagements in biotech related fields, leading to the award of the "Pharmaceutical Buy-Side M&A Advisor of the Year" by Frost & Sullivan in 2005.

Tracie Ramsdale, PhD

- One of original founders of Alchemia and has led development as General Manager and CEO from 1998-2007.
- Holds Master of Pharmacy from Victorian College of Pharmacy and a PhD in Biochemistry from the University of Queensland.
- Currently, adjunct Professor at the School of Chemical and Molecular Biosciences, University of Queensland, a member of the Australian Federal Government's Advisory Council on Intellectual Property and a Fellow of the Australian Academy of Technological Sciences and Engineering.

Susan Kelley, MD

- Served on the Board of Directors of ArQule, Inc. since April 2011.
- Previously experience at Bayer Healthcare Pharmaceuticals and Bayer-Schering Pharma in Germany and the United States, serving as Vice President, Global Strategic Drug Development, Cancer; and Vice President, Global Clinical Development and Therapeutic Area Head-Oncology.
- Served as Chief Medical Officer of the Multiple Myeloma Research Foundation/Consortium.

Tim Hughes

- Brings 30+ years of experience in investment banking and fund management.
- Most recently served as Investment Counsel at NGS Super and as a commentator on economics and finance for a News Corporation paper.
- Previously spent 13 years as a senior executive at Rothschilds as a board director and executive committee member.