

Accelerating Innovation: From Mind to Market Success

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Agenda

- Biotechnology – A Unique Industry
- Xenon Approach
- Biotech in BC
- Opportunities
- Challenges
- Recommendations



Biotech – A Unique Industry

- 15 years to develop a drug
- At a cost of ~\$1 billion/product
- 90% of R&D programs don't yield a product
- Huge regulatory hurdles
- Many product withdrawals

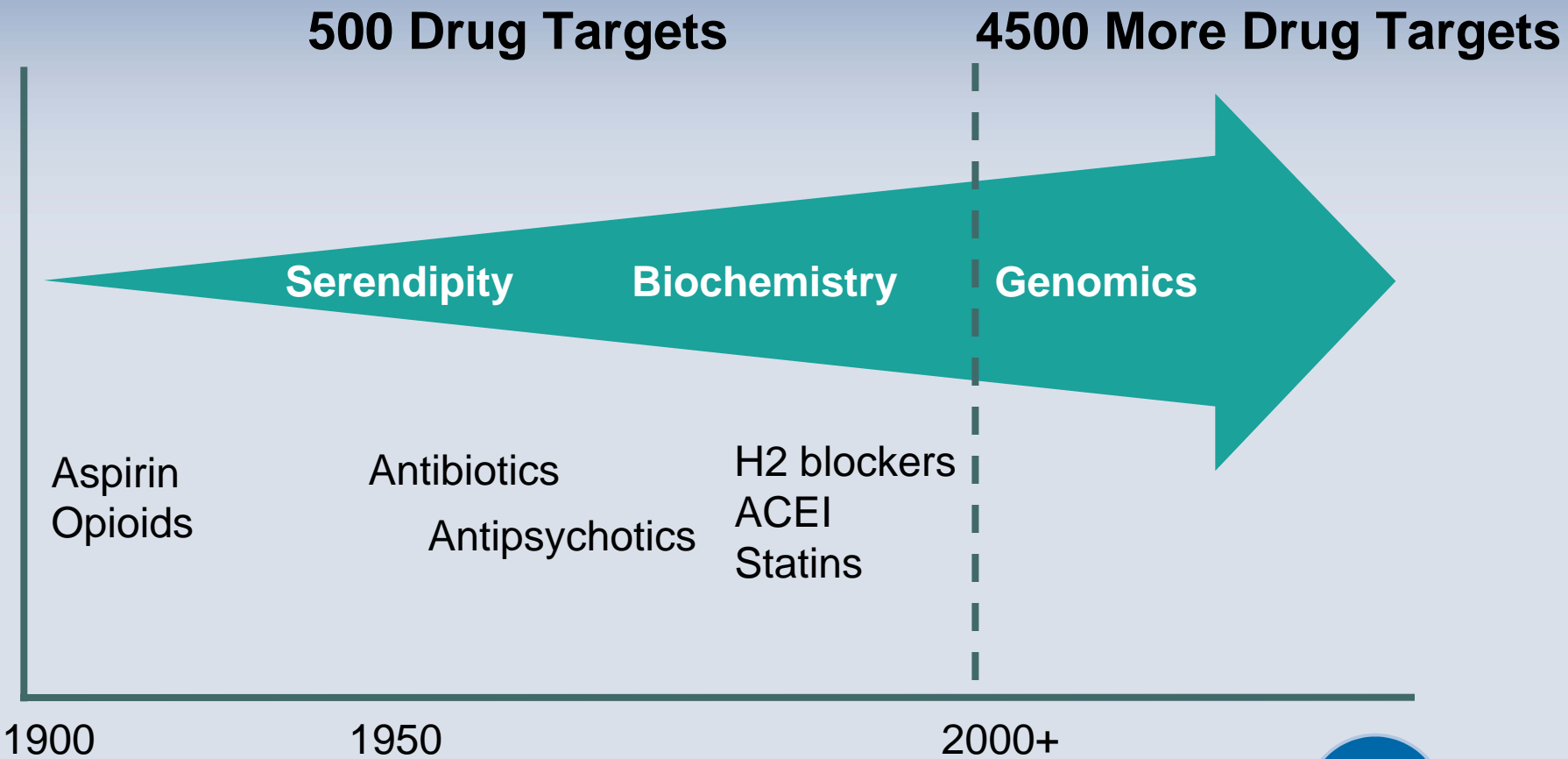


Cause for Concern in the Industry

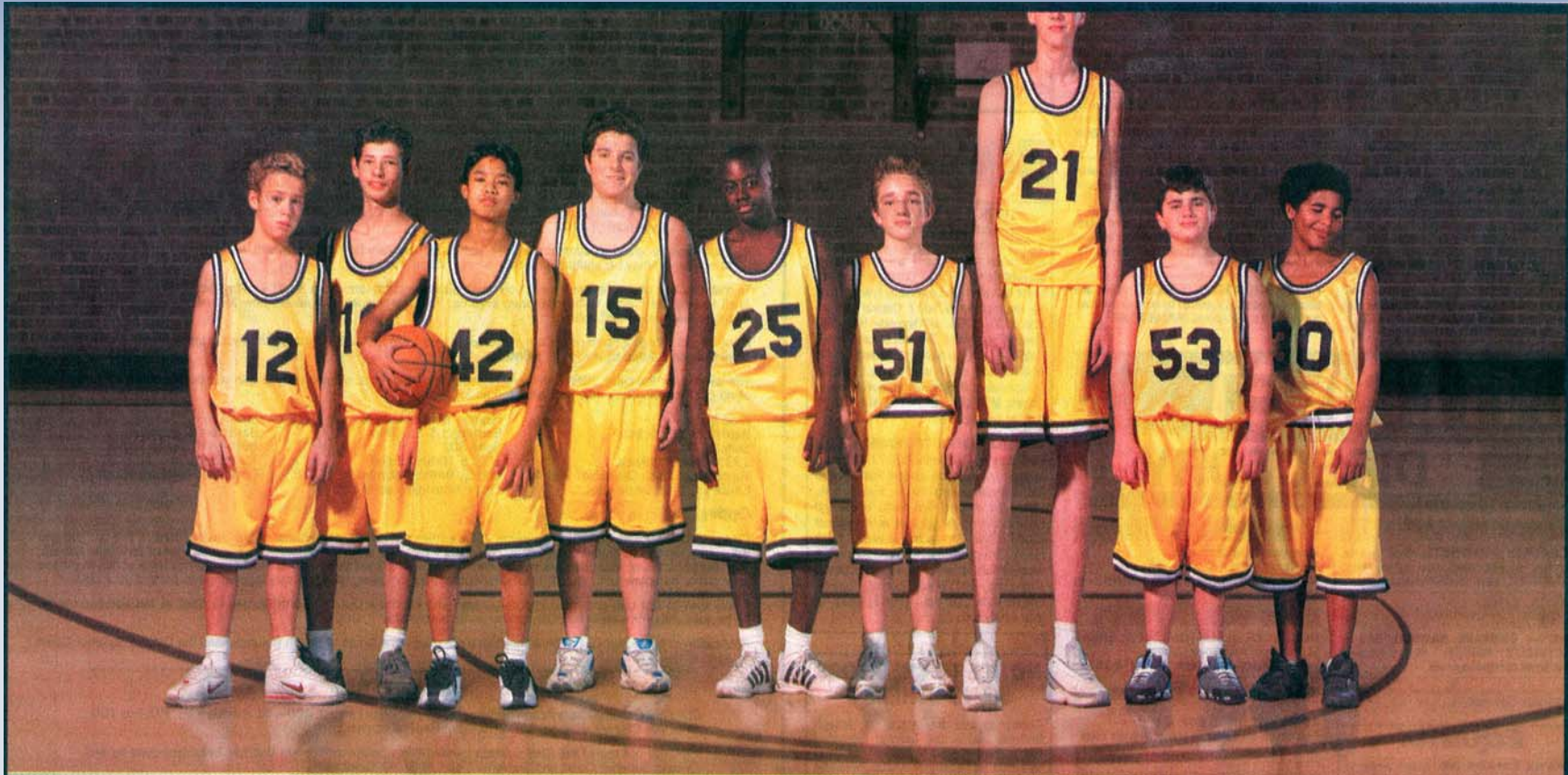
- Products coming off patent
- Payer pricing pressures
- Public perception
- Pharma has pipeline woes
- Past 15 years
 - *Pharma R&D spending has increased from <\$10b to >\$35b*
 - *Drug approvals have remained at ~25/year*



Genetics Provides Exciting Opportunities



Genetics - Treasure your Exceptions



Mackenzie Mutual Funds Advertisement



Xenon Overview

Overview

- Privately held
- UBC spin-out
- 77 employees
- Novel medicines
- Blockbuster markets
- First product in clinic in '07
- Multiple large pharma deals plus global investor base

Partnerships



Investors



FIDELITY VENTURES



GROWTHWORKS

NOVO

MX Associates

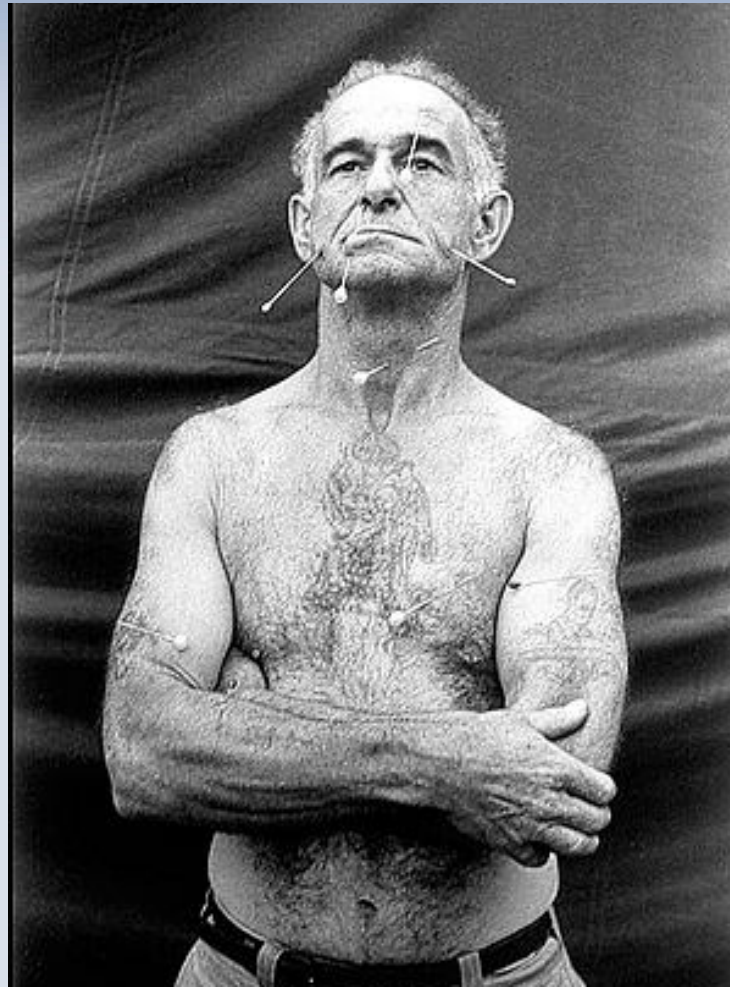


LipoteRx

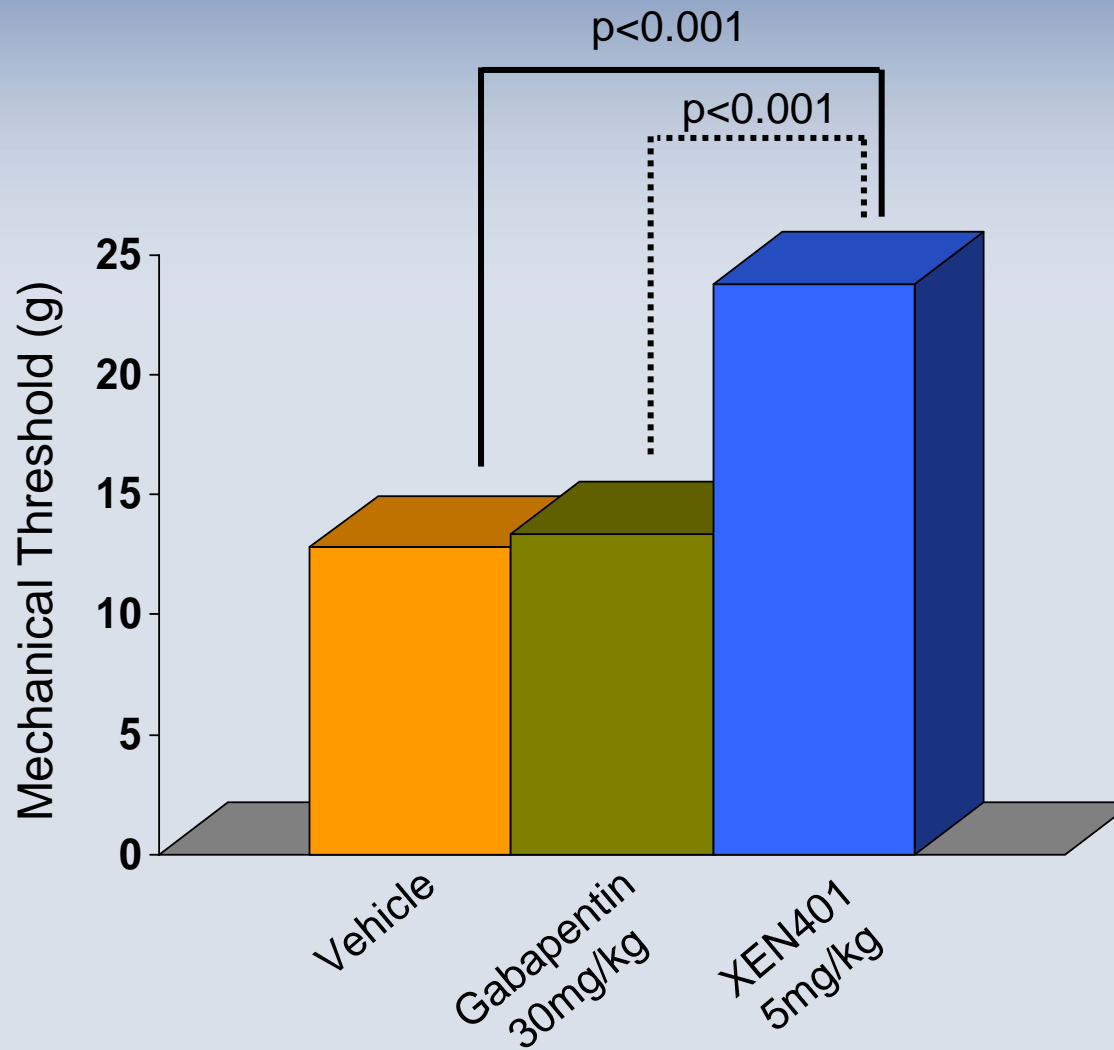


Human Genetics: Drugs for Pain

Some humans feel no pain



Neuropathic Pain

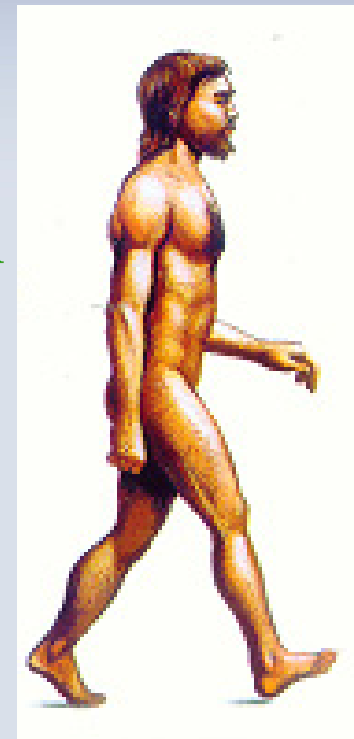


Genetics: Drugs for Obesity/Diabetes

SCD1 Inhibitor – Weapon of Mass Reduction

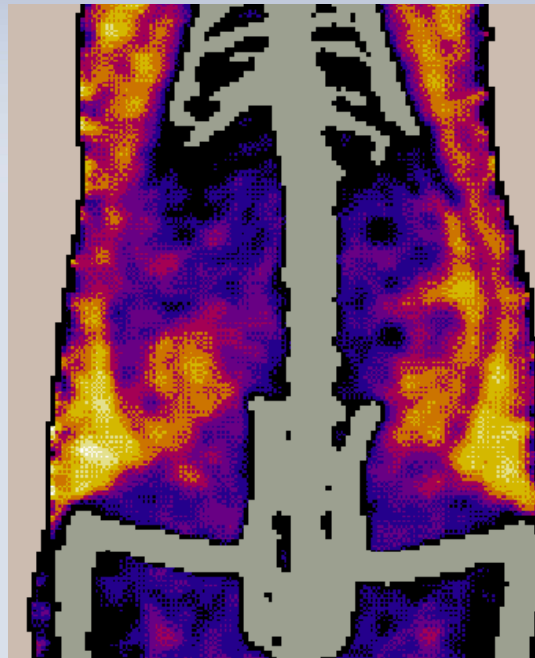


SCD1 ↓

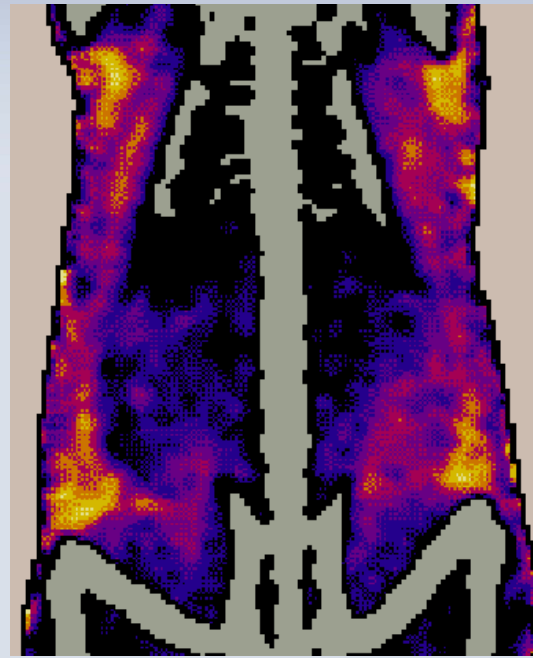


Genetics: Drugs for Obesity/Diabetes

Baseline: 28% Fat



Week 6: 13% Fat



Low Fat  High Fat



B.C. & Biotechnology

- ~ 100 companies
- 7th largest hub in N. America
- Market cap of all BC biotech's ~\$3.5 billion
- 2,600 Employees
- Revenues \$0.5 billion - \$1 billion
- 16 Public Co's
- 3 of the world's ~20 profitable biotech's are in BC

Lifesciences BC data



Long Term Sustainability Problem

- No Amgen, Genentech
- Lost many companies to US
- Many public biotech's in trouble
- Most biotech's are early stage
- University spin-offs have been declining
- BC is a first rate IP generating arm for Global pharma
- Key gaps are development & commercialization



The Opportunities

- Government funding of basic infrastructure & research
- Excellent universities and tech transfer
- Healthcare system supports clinical development
- Many experienced Canadians abroad
- Geographic position (QOL & access)
- Serial entrepreneurs
- Competitive tax rates
 - *SR&ED*
 - *IFC legislation (refund on taxes paid on income derived from BC-based life science patents)*
 - *Corporate*



The Challenges

- Capital
- Political environment
- People



Capital

- Local pools of capital inadequate
 - *VC's are risk averse and often can't support long term*
- Companies don't raise sufficient capital and finance too early
- Complex tax treaty affects US cross border investment
- We need foreign capital



Political Environment

- Restrictive market access policies
 - *including for innovative BC-developed products*
- Questionable process for drug approvals
 - *TI not accountable, representative or peer reviewed*
- No alignment between key Ministries (Health, ED, Education)
- BC leading a national charge towards restricting access to innovative therapies
- Lousy environment - no pharmaceutical presence
- Example:
 - *Major Pharma Co (2005): \$180 M invested in Canada
\$ 1 M invested in BC!!*



Political Environment

“Ammoral”, “Corrupt”, “The Enemy”

CHSPR conference, Vancouver, Feb 2006

Sponsors included Provincial Government and UBC



People

- Lack of internationally experienced management and boards
- Tough to recruit senior executives
- Immigration policies and procedures



Opportunity

- Biotech recognized as a key industry for economic future of BC
- Biotech Opportunity = Huge Economic Opportunity
 - *60% of FDA approvals are biotech and not pharma products*
- BC has excellent foundation
- Capacity present – Sweden, Denmark
- Need capital, people, pharma
- Need political action



Recommendations

- Provide a political environment supportive of innovation and commercialization
 - *Fair and transparent drug approval process*
 - *Alignment of Ministries*
- Improve Tax climate
 - *SR & ED process (increase expenditure limit & remove the CCPC restriction)*
 - *Remove obstacles for foreign investment (LLC tax treatment – now a federal priority)*
- Foster recruitment of experienced executives

