From Research To Production
Or
From The Laboratory To A Company ...
What Is Needed

EPFL, April 4, 2007
Prof. A. Pfeifer

“A Round B of CHF 21 Million in 2005, a more than 300 Million Licensing Deal in 2006” ...

What were the key success factors?
The four Key Success Factors

- Superior technology
- Experienced Management
- Professional Board
- Industry / Finance network

The Technology and IP-Basis is half of the Success

- Breakthrough technology
- Edge over competition
- Unmet product need with significant market
- Sound IP with freedom of operation
The Management must have Business and Industry Experience

– Business structure and organization
– Start-up experience
– Industrial R&D management
– Translation of R&D in products (business value)
– Specific finance expertise (VC experience)
– Project management skills
– Courage and discipline

Superior technology is the foundation for success, execution capability will make it a success!

A critical and supportive Board is a Key Element for a Start-up Success

– Entrepreneurial vision
– Industry experience
– Business managers
– Finance network
– Critical and demanding personalities
A Company with an Industry and/or Finance Network has a higher Probability of Success

- CEO must have the credibility and trust in the finance and industry world
- An industrial network will facilitate financing and partnerships
- Successful personal business relations are most important

How have the 4 success factors influenced the development of AC Immune?
AC Immune is a Swiss Company with a Focus on Alzheimer’s Disease

- Located in Lausanne (CH) in close proximity to the EPFL
- A balanced product pipeline based on immunology and chemistry platform
  - > 15 patent applications
- Distinguished Founders and Scientific Advisory Board
- Experienced leadership team
- Secured CHF 24 million since foundation in 2003

AC Immune has raised CHF 24M since Foundation in 2003

**Evolution**
- 2003 / Q1: Foundation of AC Immune
- 2003 / Q3: CHF 3M Series A Round
- 2005 / Q2: CHF 21M Series B Round
- 2006 / Q4: USD 300M licensing agreement for the AD mAb with Genentech

**Plan**
- 2007: IND and clinical phase I of AD Vaccine
- 2008: At least one phase II and one additional phase I
AD is the most important neurodegenerative Disease

- 10% of 65-70 year old and 50% of people over the age of 85 are affected
- Patient population is today 4 million in the US and 15 million worldwide

A brain without the disease
A brain with advanced Alzheimer's
How the two brains compare

http://www.alz.org/brain

Beta-Amyloid as primary Target for future Disease-modifying Treatments

<table>
<thead>
<tr>
<th>Target</th>
<th>Main Players</th>
<th>Status</th>
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<tbody>
<tr>
<td>Symptoms</td>
<td></td>
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<tr>
<td>Neurotransmitter</td>
<td>Large Pharma</td>
<td>Main group of drugs on the market</td>
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<tr>
<td>Anti-inflammatory</td>
<td>Diverse group</td>
<td>Limited success</td>
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<tr>
<td>Molecules</td>
<td></td>
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<tr>
<td>Potential Cure</td>
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<tr>
<td>α-Secretase Activators</td>
<td>Phase I candidate</td>
<td></td>
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<tr>
<td>β and γ-Secretase</td>
<td>Phase I candidates (β,γ), potential side effects (γ)</td>
<td></td>
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<tr>
<td>Inhibitors</td>
<td>Large Pharma</td>
<td></td>
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<tr>
<td>Tau</td>
<td>Biotech</td>
<td>Phase I</td>
</tr>
<tr>
<td>Cure / Treatment</td>
<td></td>
<td></td>
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<tr>
<td>Anti-Amyloid</td>
<td>Elan/Wyeth, Eli-Lilly, Novartis/Cytos, Roche/Morphosys, Pfizer/Rinat, Merck/Accumen</td>
<td>Potential for first real treatment</td>
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<tr>
<td>Immunotherapy</td>
<td></td>
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<tr>
<td>Anti-Amyloid Aggregation</td>
<td>Biotech and large Pharma</td>
<td>Phase I and III molecules</td>
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</tbody>
</table>
AD is marked by Deposits of misfolded Proteins (Plaques, Tangles) spread through the Cortex

AD is an unmet medical Need and a global Health Care Issue

No effective treatment on the market

Medical cost
- 2004 Drug Sales $ 2.5bn
- 2010 Expected Sales $ 4bn
- 2020 Expected Sales $ 10bn

Indirect health care expenses
- 2003 US Nursing Costs: $ 100bn

Market potential for anti-amyloid Vaccine
- $ 2-4bn sales
AC Immune has two proprietary Technology Platforms

Using 2 platform technologies...

**SupraAntigen™ Technology**
To generate conformation sensitive antibodies and break the organism’s immune tolerance

**Morphomers™**
Small Molecule Chemistry to produce conformation sensitive molecules, called Morphomers™

... to create unique drug solutions...

... for conformational diseases such as Alzheimer's

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AC Immune’s Hypothesis for a Disease-modifying Treatment

Plaque Formation

β-sheet breaking of β-amyloid (Aβ) by shifting the equilibrium via stabilization of the soluble form of β-amyloid.

Aβ soluble

Aβ insoluble (β-sheet)

Stabilization of soluble form

Antibody • Morphomers™
SupraAntigen™ generate conformation sensitive Immunotherapeutics

Advantages:
1) Improved antigen presentation
2) Higher Immunogenicity
3) Conformation sensitivity
4) Breakage of immune tolerance to self-proteins

The SupraAntigen™ Technology for active and passive Immunotherapy

Active
- External Antibody Production
- Longer lasting immune response

Passive
- More immediate effect
SupraAntigen™ is the Basis for ACI’s Alzheimer’s Vaccine

- **Target**
  - Alzheimer’s Disease
    - β-Amyloid
  - Cancer
    - MDR1

**Chemistry Platform**
- Supra-Antigen™
- Morphomers™

Key Success Factors

- AC Immune Market Product Outlook

Lead Vaccine generates therapeutic Antibody Titer in 12 Weeks

**Antibody Titer**

- Control
- ACI-21 Immunization

- Empty Liposomes
- Liposomes with Antigen

- n=7 for control, n=8 for ACI-21. 3 month old mice were bi-weekly immunized with six i.p. injections.
Cognitive Function Test (ORT): Measures the Memorization of a known Object

Exploration time:
AD diseased mice 50 : 50
Healthy mice 35 : 65

Lead Vaccine improves Recognition and decreases Plaques in AD Mice

A) Object Recognition Task

B) Thioflavin S Staining of Plaques

Proof of Concept for Vaccine is the Basis for preclinical Development

Achievements
- Defined antigen conformation
- Therapeutic antibody titers in healthy and AD mice
- Plaque reduction in AD mice
- Restoration of memory in AD mice

Milestones
- 2007 Completion of GMP manufacturing and toxicology; IND and phase I
- 2008 Phase II

SupraAntigen™ is the Basis for ACI’s Alzheimer’s Antibody

Target | Supra-Antigen™ | Chemistry Platform
---|---|---
β-Amyloid | Vaccine mAb | Morphomers™
MDR1 | Vaccine |
Lead Antibody binds defined Amyloid Fiber Sites

TEM of co-incubated Aβ1-42 fibers with gold-labeled monoclonal antibody.

AC Immune’s Lead Antibody has unique Characteristics

Achievements

– Conformation specificity of antibodies
– Demonstration of bi-specific properties with inhibition of aggregation and disaggregation
– Decrease in vivo of soluble beta amyloid in AD mice
– Increase in vivo of memory function in AD mice

Milestones

– 2007 mAb Manufacturing, Toxicology
– Partnered with Genentech
Summary of ACI’s current Pipeline and its expected Development

<table>
<thead>
<tr>
<th>Pipeline Area</th>
<th>2007</th>
<th>2010</th>
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<tbody>
<tr>
<td>Alzheimer’s</td>
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<tr>
<td>Vaccine</td>
<td>ACI-24</td>
<td>ACI-24</td>
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<tr>
<td>Antibody (GNE)</td>
<td>ACI-01-Ab7</td>
<td>ACI-01-Ab7</td>
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<tr>
<td>Small Molecule</td>
<td>ACI-101</td>
<td>ACI-101</td>
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<tr>
<td>Morphomers</td>
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<tr>
<td>New Targets</td>
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<tr>
<td>CNS</td>
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<td>New Indication of AD Lead</td>
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<tr>
<td>Antibody (GNE)</td>
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<tr>
<td>MDR1</td>
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<tr>
<td>Vaccine for Cancer</td>
<td>ACM-51</td>
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<tr>
<th>Phase</th>
<th>Discovery</th>
<th>Pre-clinic</th>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
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**Market**

Key Success Factors
AC Immune
Market
Product
Outlook

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Lead Antibody decreases soluble Amyloid Burden in AD Mice (hAPP)

**Soluble Amyloid in Brain**

**Control**

**ACI-01-Ab7 Immunization**

-24.0 %

Aβ1-40 Elisa: 2 i.p. injections of 300 μg Ab. Data represent Mean ± SEM; p<0.05.
Lead Antibody increases Memory Capacity in AD Mice

2 i.p. injections of 300 μg Ab; single transgenic mice (hAPP). Data represent Mean ±SEM; p<0.05.

The Future of AC Immune: Leader in AD and an IPO/M&A Candidate in 2010

1. Proprietary technologies: 3 axis of Alzheimer’s therapeutics
2. Active in an untapped market in the field of Alzheimer’s disease
3. Solid financial basis and market reputation due to the early stage licensing agreement with Genentech
4. Balanced product portfolio with first AD product on the market in 2012
5. Proactive cash management: optional Series C Round in 2007/8 to strengthen AD pipeline

www.acimmune.com Apr-07
From LC1 to AC Immune …
… the Key Success Factors are very similar

– Entrepreneurship
– Excellent IP-protected product concept
– Visionary and persistent management
– Sound business and commercialization plan supported by the top management / Board
– Courage and discipline