



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

**EPFL, April 4, 2007
Prof. A. Pfeifer**



**Key Success
Factors**

AC Immune

Market

Product

Outlook

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

**What were the key success
factors?**



Key Success
Factors

AC Immune

Market

Product

Outlook

The four Key Success Factors

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



Key Success
Factors

AC Immune

Market

Product

Outlook

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



**Key Success
Factors**

AC Immune

Market

Product

Outlook

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!



**Key Success
Factors**

AC Immune

Market

Product

Outlook

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



**Key Success
Factors**

AC Immune

Market

Product

Outlook

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



**Key Success
Factors**

AC Immune

Market

Product

Outlook

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

Key Success Factors

AC Immune

Market

Product

Outlook

- 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
- Awards: Red Herring European Top 100 (2006), Cash P/E Top 10 (2004), Cash Enterprise (2003)

www.acimmune.com

Apr-07

9



AC Immune has raised CHF 24M since Foundation in 2003

Key Success Factors

AC Immune

Market

Product

Outlook

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

www.acimmune.com

Apr-07

10



Key Success Factors
AC Immune
Market
Product
Outlook

AD is the most important neuro-degenerative 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>

www.acimmune.com Apr-07 11



Key Success Factors
AC Immune
Market
Product
Outlook

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

	Target	Main Players	Status
Symptoms	Neurotransmitter	Large Pharma	Main group of drugs on the market
	Anti-inflammatory Molecules	Diverse group	Limited success
Potential Cure	α -Secretase Activators		Phase I candidate
	β and γ -Secretase Inhibitors	Large Pharma	Phase I candidates (β, γ), potential side effects (γ)
	Tau	Biotech	Phase I
Cure / Treatment	Anti-Amyloid Immunotherapy	 Elan/Wyeth, Eli-Lilly, Novartis/Cytos, Roche/Morphosys, Pfizer/Rinat, Merck/Accumen	Potential for first real treatment
	Anti-Amyloid Aggregation	 Biotech and large Pharma	Phase I and III molecules

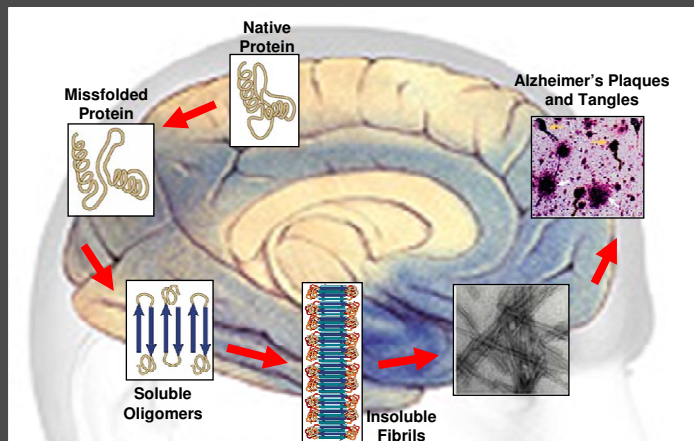
www.acimmune.com Apr-07 12



Key Success
Factors
AC Immune

Market
Product
Outlook

AD is marked by Deposits of misfolded Proteins (Plaques, Tangles) spread through the Cortex



Ref: Soto 2003. <http://www.alz.org/brain>
www.acimmune.com Apr-07

13



Key Success
Factors
AC Immune

Market
Product
Outlook

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

www.acimmune.com

Apr-07

14



AC Immune has two proprietary Technology Platforms

Key Success Factors
AC Immune
Market
Product
Outlook

Using 2 platform technologies...

SupraAntigen™ Technology

To generate conformation sensitive antibodies and break the organism's immune tolerance



Morphomers™

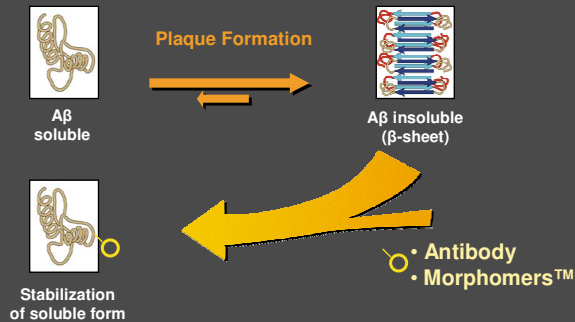
Small Molecule Chemistry to produce conformation sensitive molecules, called Morphomers™

... for conformational diseases such as Alzheimer's



AC Immune's Hypothesis for a Disease-modifying Treatment

Key Success Factors
AC Immune
Market
Product
Outlook

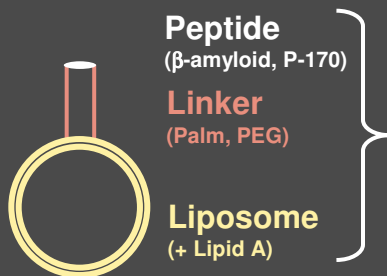


β -sheet breaking of β -amyloid (A β) by shifting the equilibrium via stabilization of the soluble form of β -amyloid.



Key Success Factors
AC Immune
Market
Product
Outlook

SupraAntigen™ generate conformation sensitive Immunotherapeutics



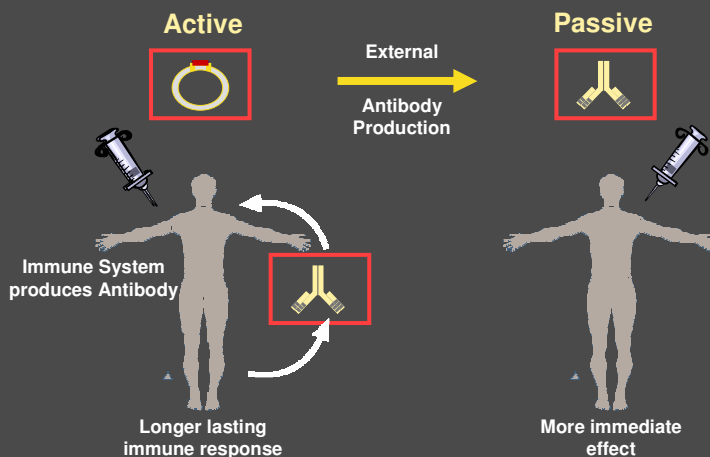
Advantages:

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



Key Success Factors
AC Immune
Market
Product
Outlook

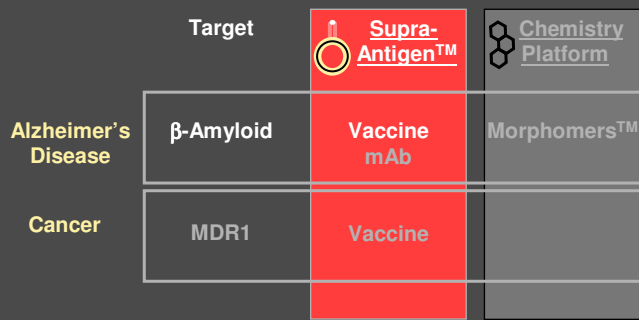
The SupraAntigen™ Technology for active and passive Immunotherapy





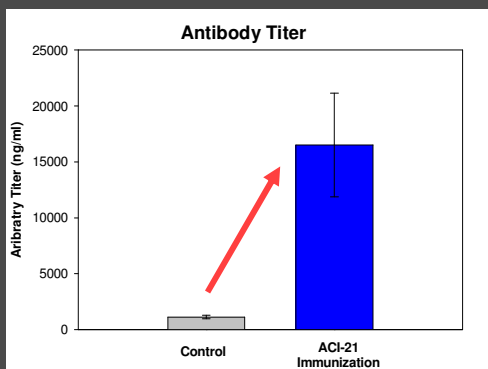
Key Success Factors
AC Immune
Market
Product
Outlook

SupraAntigen™ is the Basis for ACI's Alzheimer's Vaccine



Key Success Factors
AC Immune
Market
Product
Outlook

Lead Vaccine generates therapeutic Antibody Titer in 12 Weeks

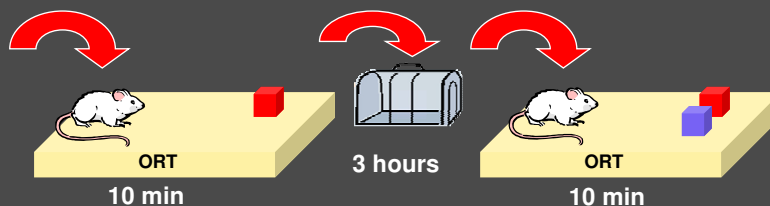


n=7 for control, n=8 for ACI-21. 3 month old mice were bi-weekly immunized with six i.p. injections.



Key Success Factors
AC Immune
Market
Product
Outlook

Cognitive Function Test (ORT): Measures the Memorization of a known Object



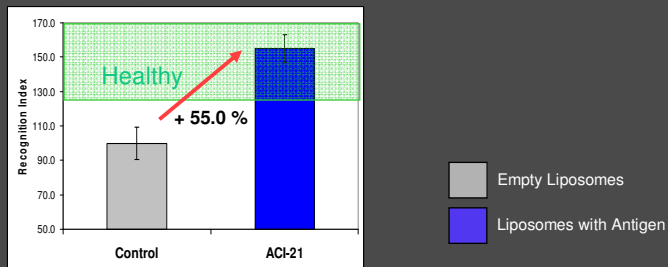
Exploration time:
AD diseased mice 50 : 50
Healthy mice 35 : 65



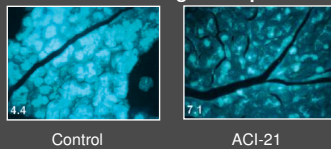
Key Success Factors
AC Immune
Market
Product
Outlook

Lead Vaccine improves Recognition and decreases Plaques in AD Mice

A) Object Recognition Task



B) Thioflavin S Staining of Plaques





Key Success
Factors
AC Immune
Market
Product
Outlook

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



Key Success
Factors
AC Immune
Market
Product
Outlook

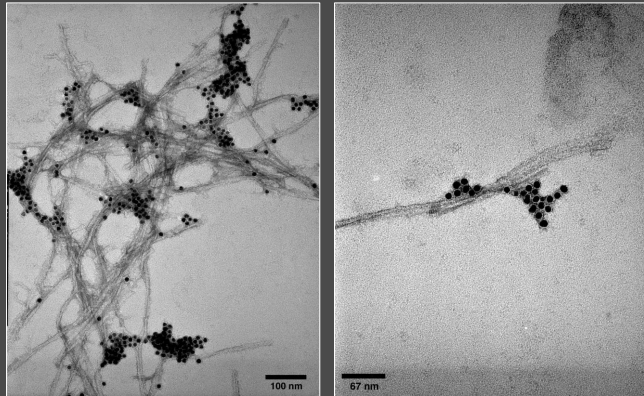
SupraAntigen™ is the Basis for ACI's Alzheimer's Antibody

	Target	 Supra-Antigen™	 Chemistry Platform
Alzheimer's Disease	β -Amyloid	Vaccine mAb	Morphomers™
Cancer	MDR1	Vaccine	



Key Success
Factors
AC Immune
Market
Product
Outlook

Lead Antibody binds defined Amyloid Fiber Sites



TEM of co-incubated A β 1-42 fibers with gold-labeled monoclonal antibody.



Key Success
Factors
AC Immune
Market
Product
Outlook

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

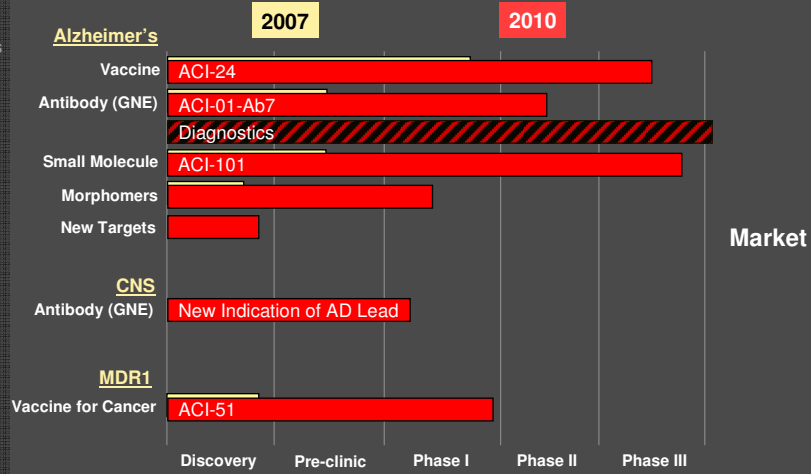
Milestones

- 2007 mAb Manufacturing, Toxicology
- Partnered with Genentech



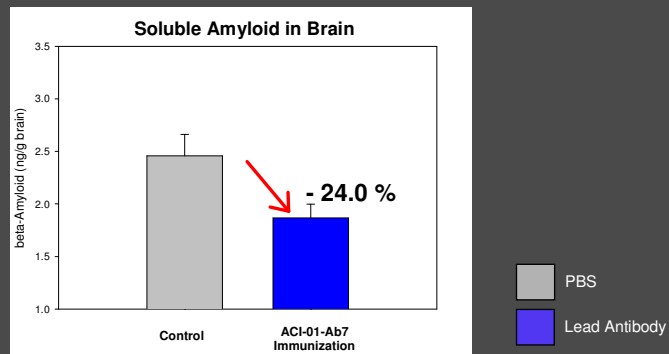
Summary of ACI's current Pipeline and its expected Development

Key Success Factors
AC Immune
Market
Product
Outlook



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

Key Success Factors
AC Immune
Market
Product
Outlook

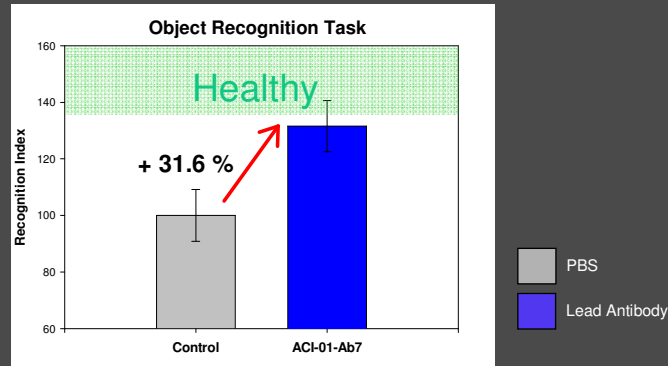


A β 1-40 Elisa; 2 i.p. injections of 300 μ g Ab; Data represent Mean \pm SEM; p<0.05.



Key Success
Factors
AC Immune
Market
Product
Outlook

Lead Antibody increases Memory Capacity in AD Mice



Key Success
Factors
AC Immune
Market
Product
Outlook

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



Key Success
Factors
AC Immune

Market

Product

Outlook

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