OPEXA THERAPEUTICS

The Woodlands, Texas (OPXA)

Corporate Presentation

C.E. Unterberg, Towbin Life Sciences Conference

October 31, 2006

Forward-Looking Statements

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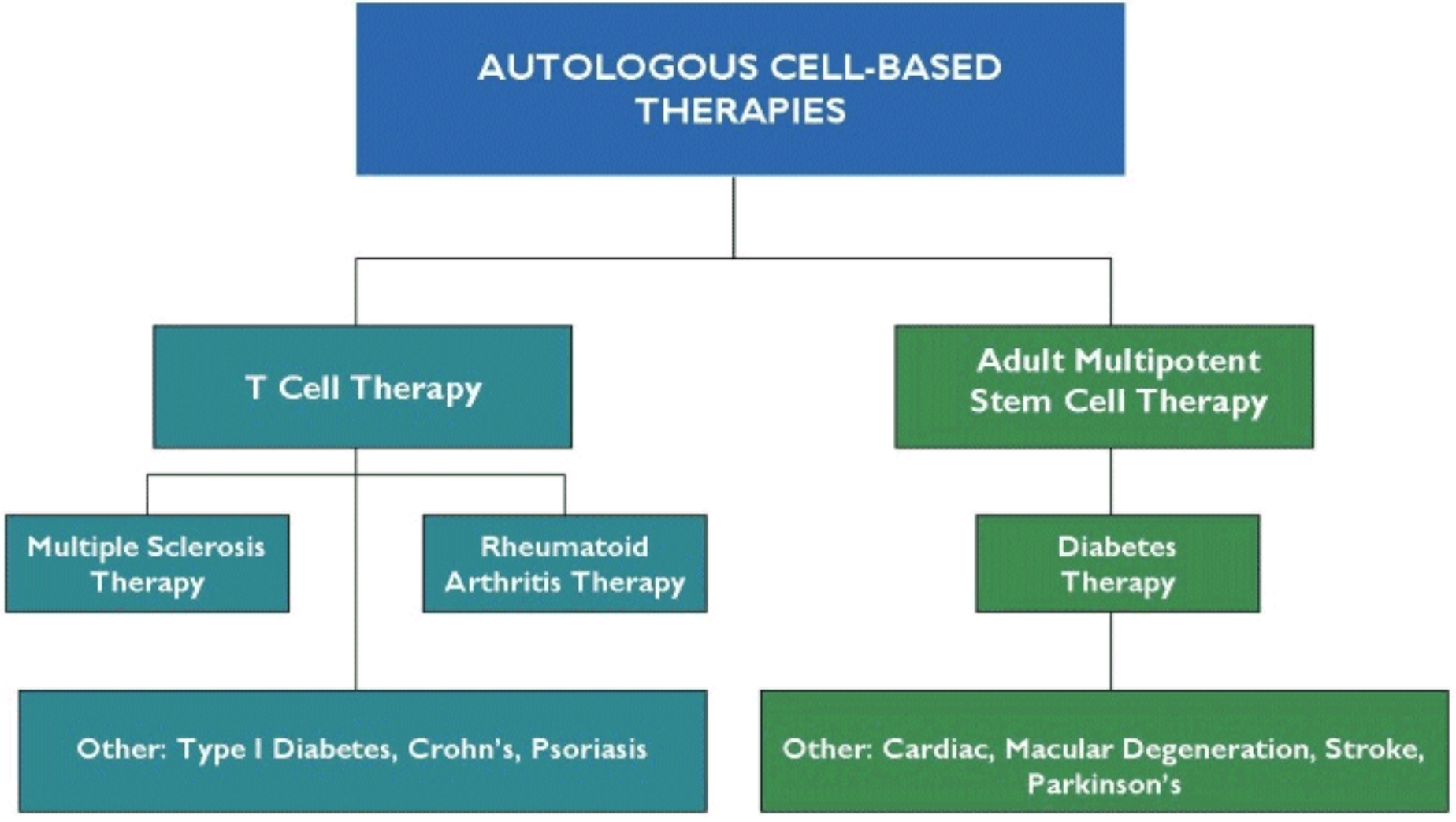
Technology & Therapeutic Overview



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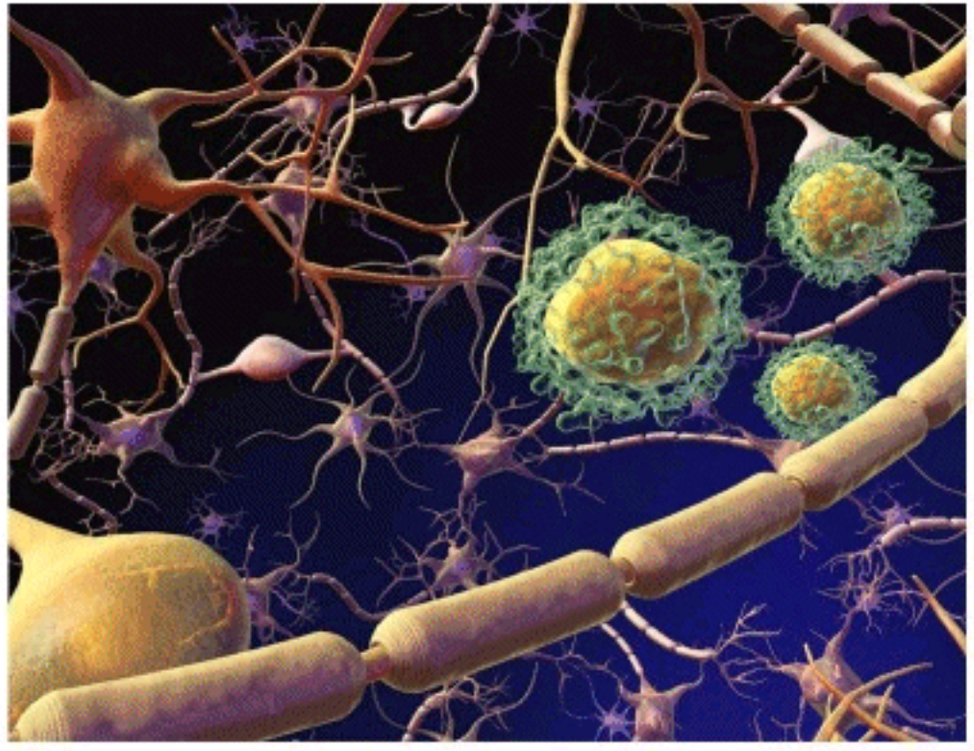
Therapeutic Platforms - Market Potential

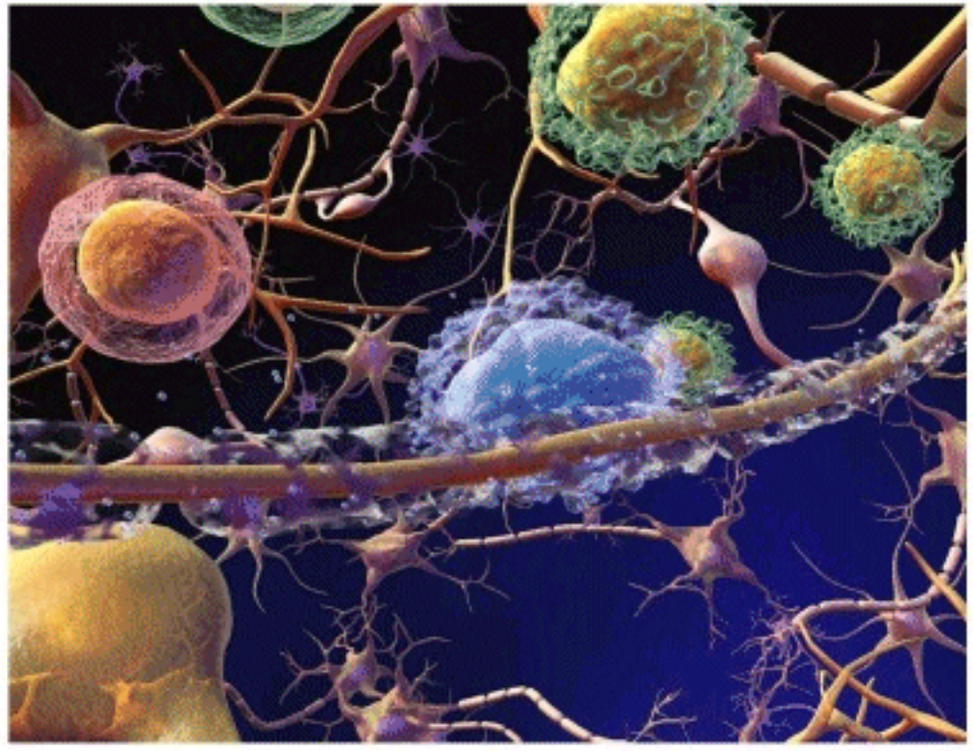
	Target	U.S. Patients	World Wide Drug Market (millions)	Status
T-Cell Platform	**Multiple Sclerosis**	**400,000**	**$5,300**	**Phase IIb**
	Rheumatoid Arthritis	2,100,000	$5,000	Pre-IND
	Type I Diabetes	1,100,000	$3,000	Research
Stem Cell Platform	Type I Diabetes	1,100,000	$3,000	Preclinical

Myelin Reactive T-Cells in Multiple Sclerosis

Multiple sclerosis (MS) is a chronic, progressive, degenerative disorder that affects nerve fibers in the brain and spinal cord. A fatty substance (called **myelin**) surrounds and insulates nerve fibers and facilitates the conduction of nerve impulse transmissions. Myelin Reactive T-cells infiltrate the healthy tissue of the CNS. A cascade of events lead to demyelination of axons which causes nerve impulse transmissions to diffuse into the tissue.



Healthy tissue with myelinated nerve fibers



Demyelinated nerve fibers

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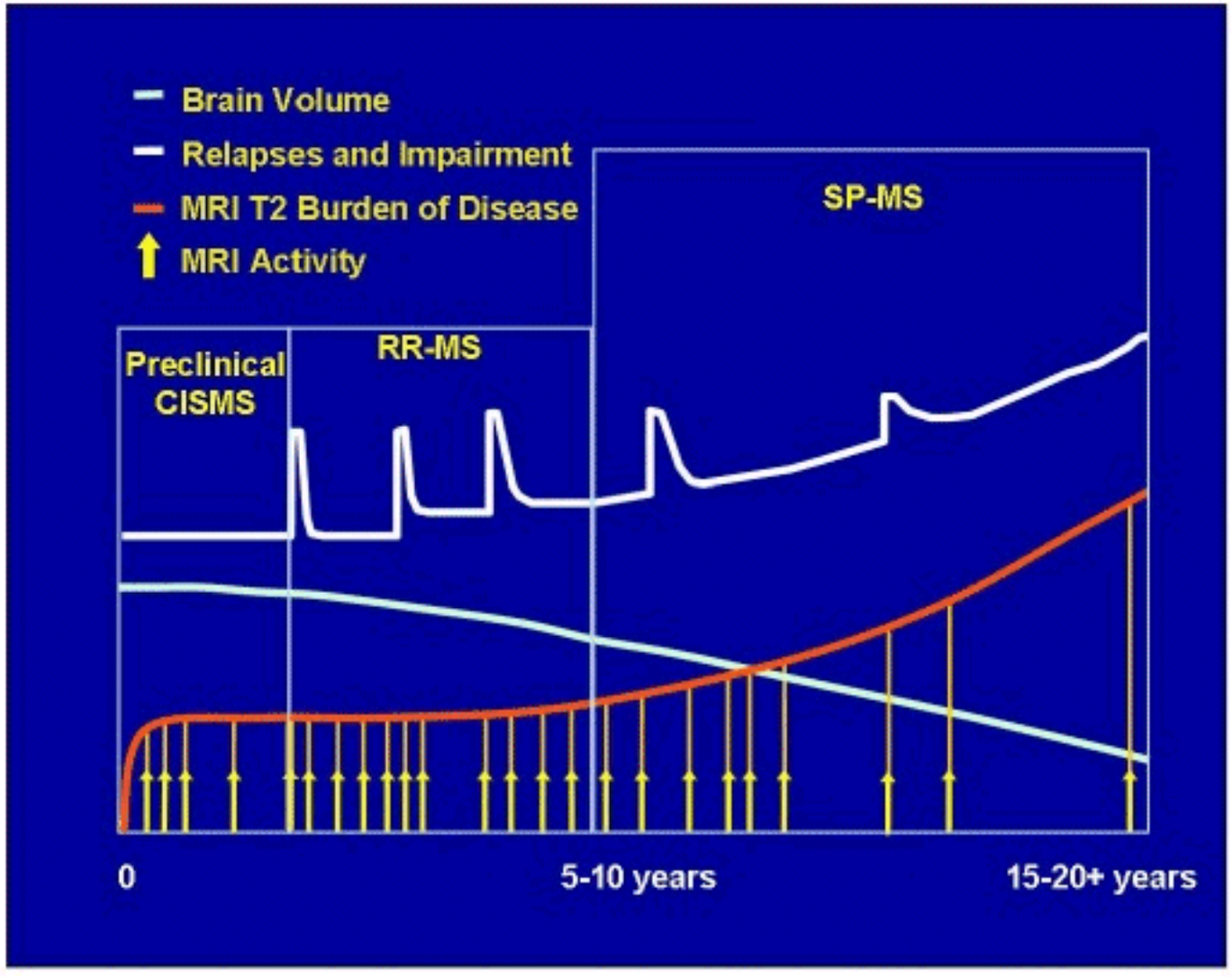
Four Types of Multiple Sclerosis

- Chronic disease of the CNS
- Pre-MS = Clinically Isolated Syndrome
- Relapsing Remitting MS
- Secondary Progressive MS
- Primary Progressive MS
- Environment, genetic predisposition, antigenic mimicry, infections as contributing factors



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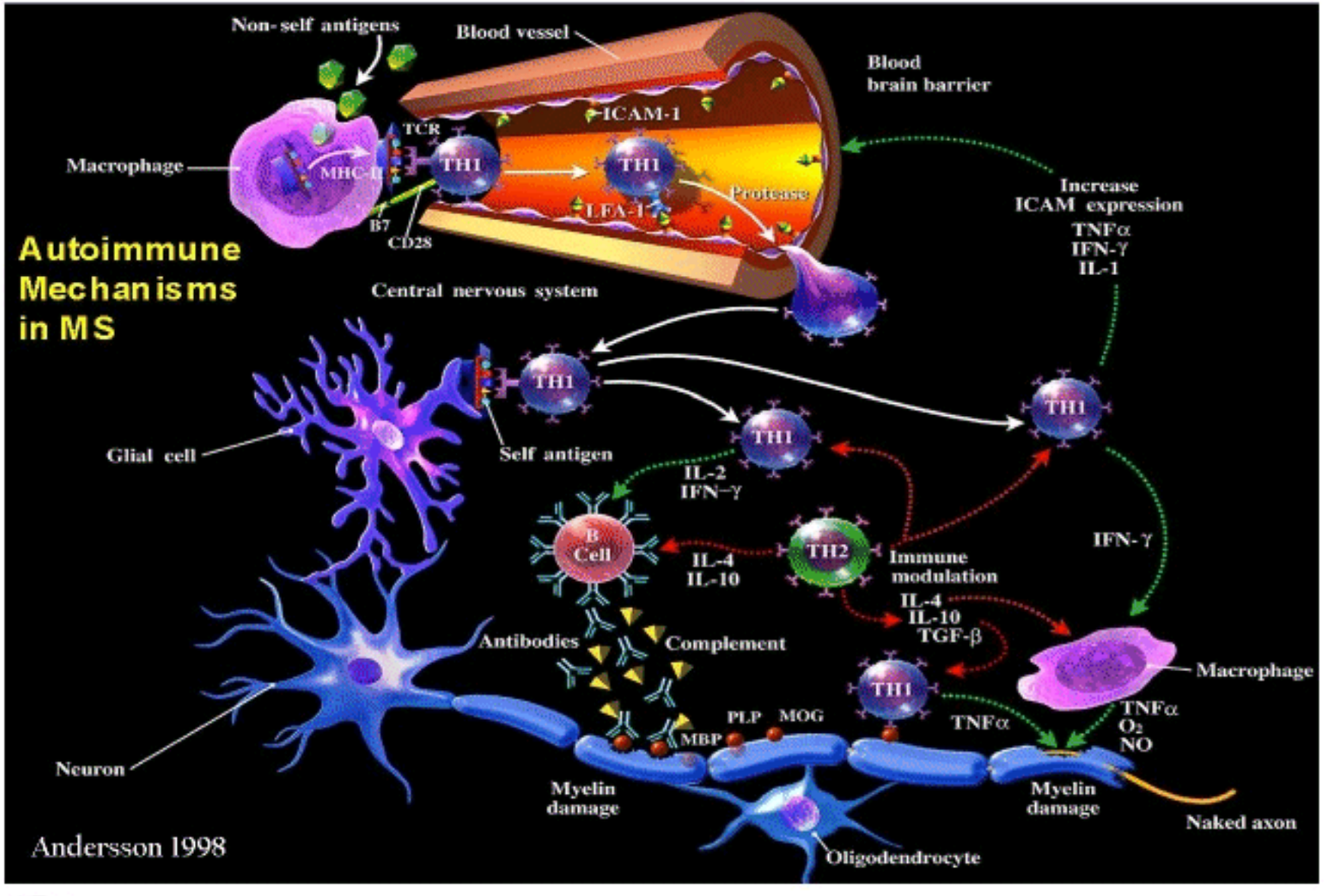
T-Cell Therapy



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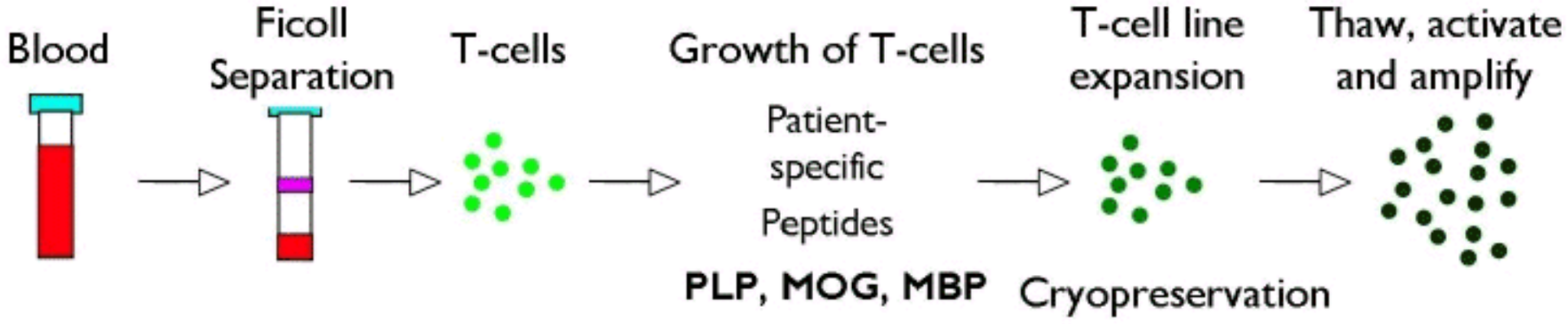
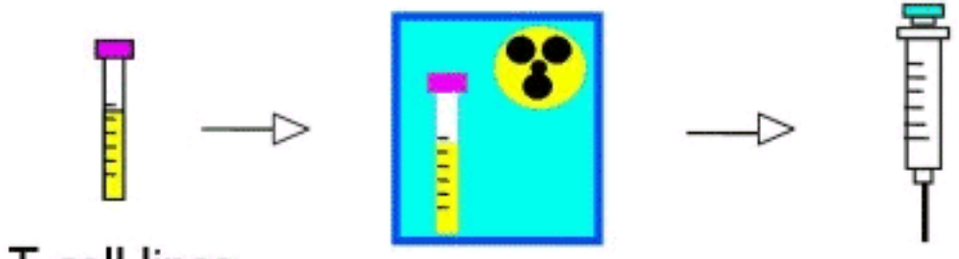
Tovaxin Manufacturing Process





Simple Product formulation
- Balanced salts
- HSA
- MRTCs

- *No adjuvants*

Dose: 30-45 x 10^6 cells

Chronology of Clinical Studies

Therapy version	Investigator	T-Cell Targets	Patients	Results
1	Zhang: Baylor, Houston	MBP: **2 peptides**	114	**40%** relapse reduction No safety issues
2	Sheba Medical Center: Israel	MBP/MOG; **4 peptides**	20	**55%** relapse reduction No safety issues
3	Tovaxin Phase I/II - Loftus: Houston	MBP/MOG/PLP; **6 peptides**	15	**93%** relapse reduction No safety issues
4	Tovaxin Phase IIb Fox: Multi-site	MBP/MOG/PLP; **Variable patient-specific**	150	**Study Progress** **Sites** 30 **Patients Screened** >70 **First Randomization** Q4 06

Phase I/II Studies

(Annualized Relapse Rate Reduction)

Patient Group	Time Period	Annualized Relapse Rate[c]	% Reduction
Dose escalation (N=7)	Pre-vaccine[a]	1.39	
	Post vaccine[b]	**0.14**	94
Extension study (N=8)	Pre-vaccine[a]	1.42	
	Post vaccine[b]	**0.12**	91
RRMS (N=11)	Pre-vaccine[a]	1.62	
	Post vaccine[b]	**0.18**	90
SPMS (N=4)	Pre-vaccine[a]	0.92	
	Post vaccine[b]	**0.00**	100

[a] Based on 24 months prior to first vaccination; [b] Based on 6 and 12 months after first vaccination;
[c] Primary endpoint for Phase III

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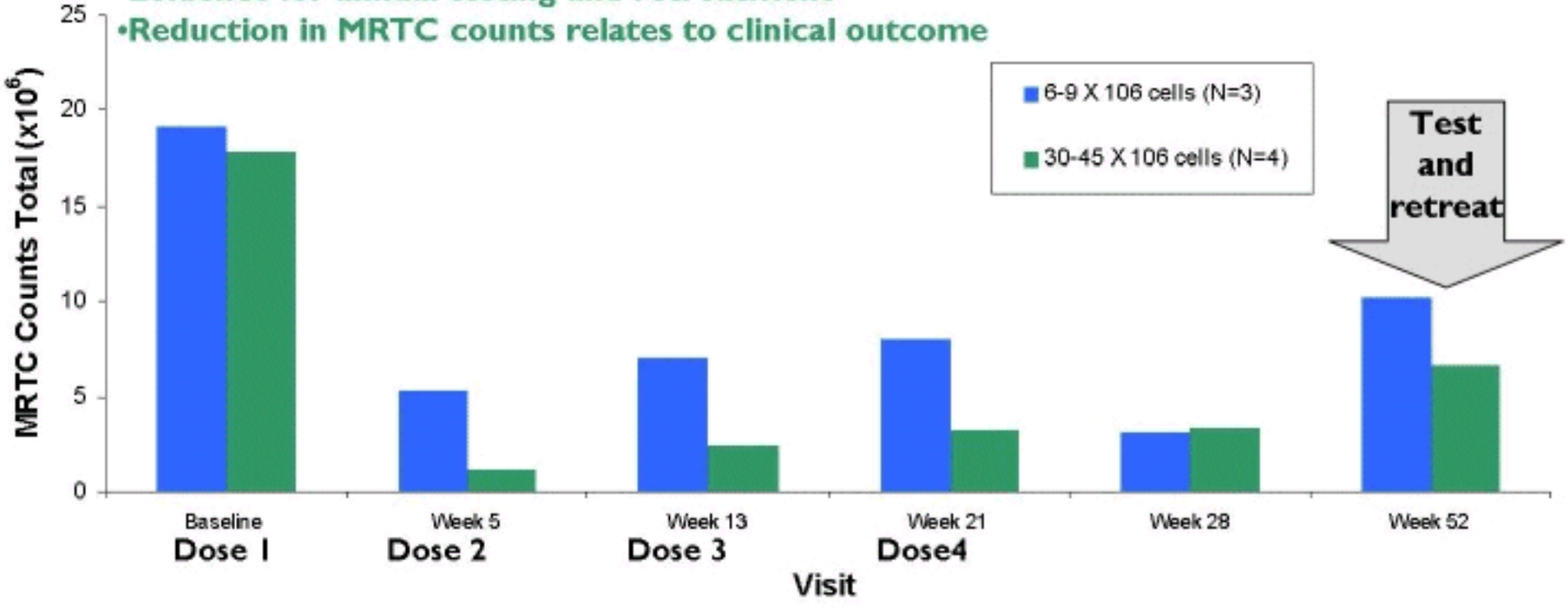
Average MRTC Total Counts Over Time By Assigned Dose Group

- Dose response
- Dose for Phase IIb selected mid-dose 30-45x10^6
- Evidence for annual testing and retreatment
- Reduction in MRTC counts relates to clinical outcome



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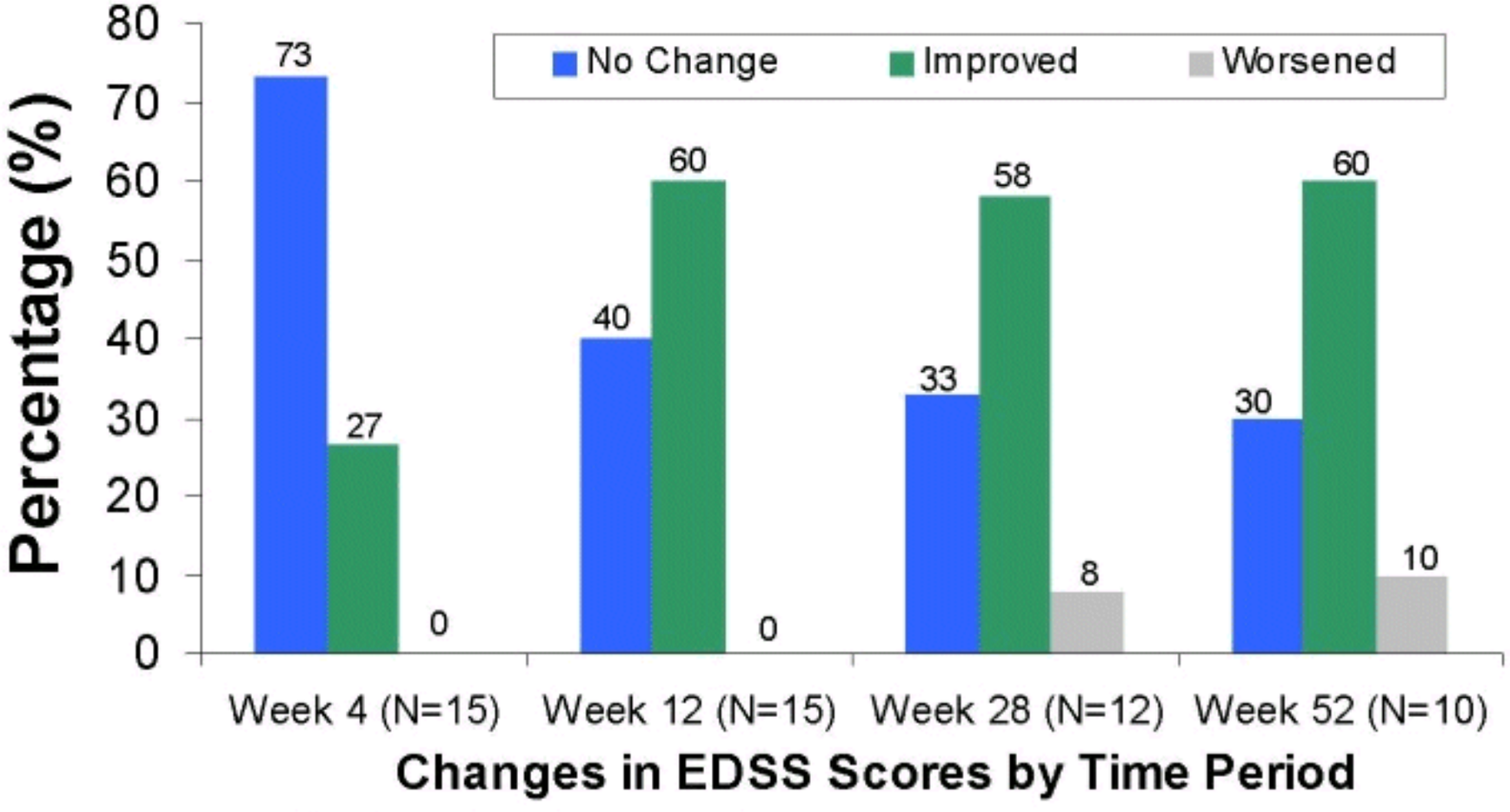
Change in EDSS – RRMS Subjects



Data consolidated from both Phase I/II Studies

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Advantages of Tovaxin

Therapy**	Effectiveness*	Safety	Admin
TOVAXIN	**93%**	**Injection site Rx (25%)** **Minimal systemic Rx**	**4-5x/yr (SC)**
Avonex	43%	Flu symptoms (49%) Headache (58%)	Weekly (IM)
Betaseron	38%	Flu symptoms (60%) Headache (57%)	Every other day (SC)
Copaxone	75%	Inj. site Rx (66%) Infection (50%)	Daily (SC)
Rebif	51%	Flu symptoms (56%) Headache (65%)	3x/wk (SC)
Tysabri	67%***	Infusion Rxns (22%) Infections (18%) Headache (35%) Deaths	1x/mo (IV)

***Relapse rate reduction on drug vs. patient history; **Novantrone not shown; *** Versus placebo: SOURCE:** 15th Meeting of European Neurological Society, June 2005

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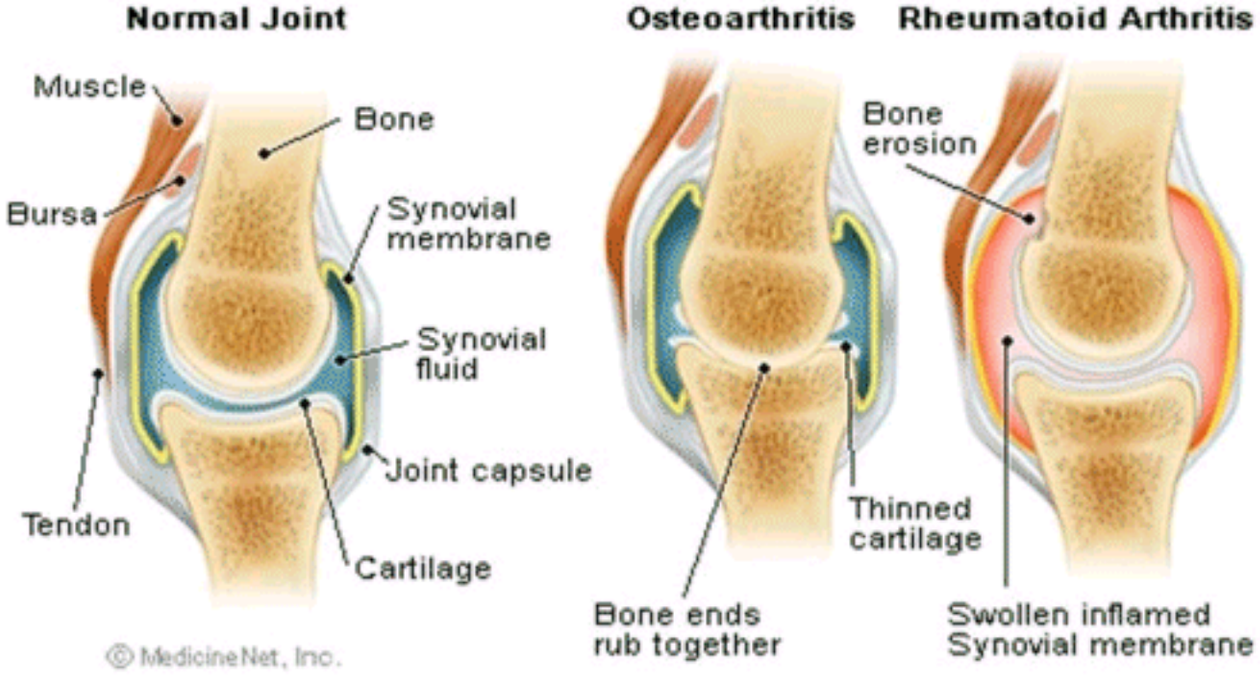
Rheumatoid Arthritis – T Cell Platform



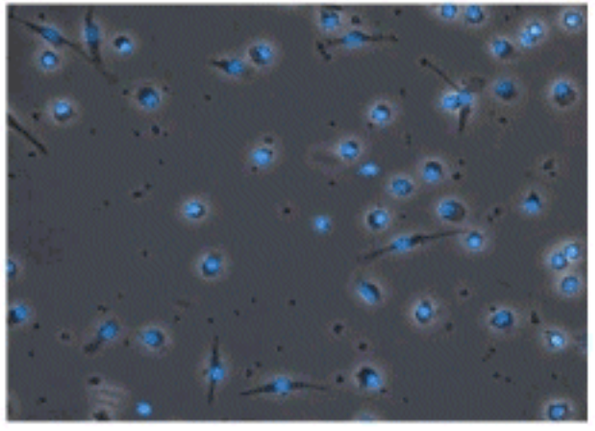
Normal and Arthritic Joints

- Large Market >$5Billion
- Unmet Clinical Need
- T-Cell Therapy similar to Tovaxin:
  - Pathogenic T-cell
  - Isolate T-cells from synovial fluid
  - Attenuated T-cells injected SC into patients
  - Minimal side effects expected

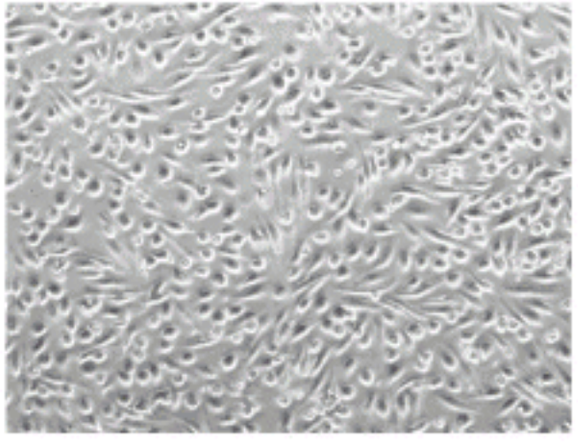
Stem Cell Therapy

- Autologous therapy sourced from standard blood draw
- Proprietary technology
- Efficient process, high yield

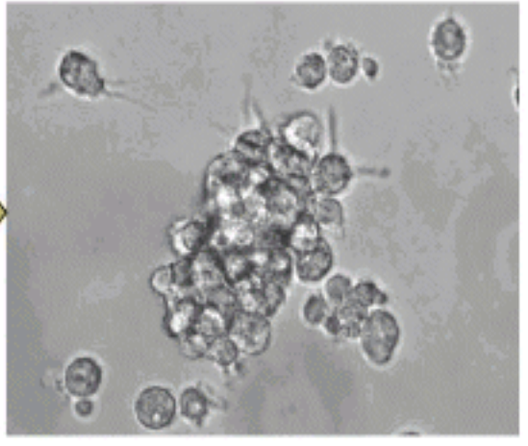
Standard 500 ml blood draw



Day 1- Adherent monocytes



Day 6 – Monocyte derived stem cells (MDSCs)



Day 12- Pancreatic islet-like clusters

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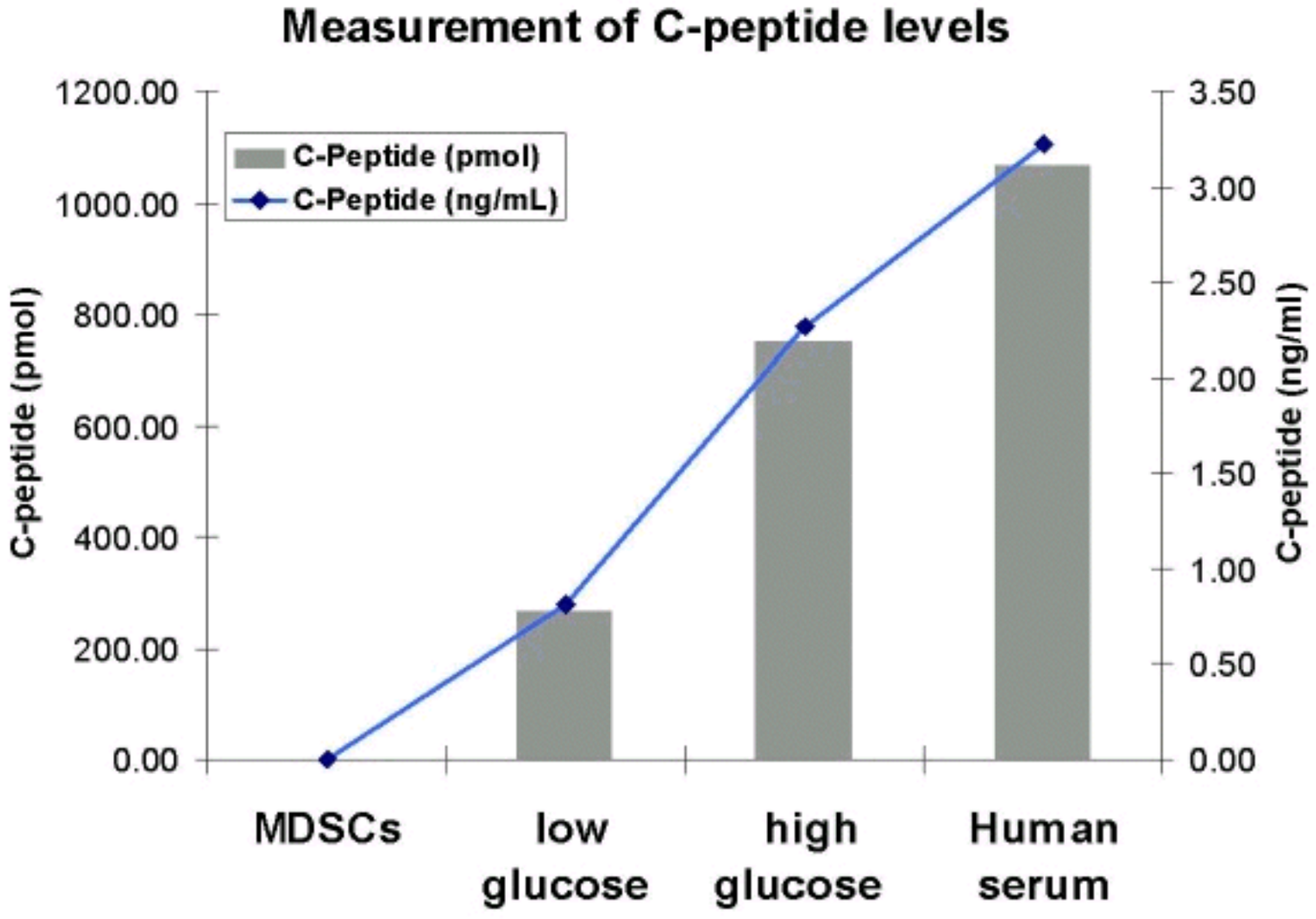
Pancreatic Islet Cells – C-Peptide Levels



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Current Stem Cell Technologies

Points to Consider	Peripheral blood monocytes	Bone marrow	Umbilical cord	Embryonic	Cadaveric
Availability	Easily obtained	Obtainable	Limited	Restricted	Limited
Collection	Blood Draw	Bone marrow aspiration Invasive	Only at birth	250 embryos per cell line	Requires 2 donors per transplant
Therapeutic dose yield	High Yield with short culturing time, can be cryopreserved	High Yield with longer culture time, can be cryopreserved	Low yields and requires additional procedures	High yields, unable to control growth – tumor issues	Difficult
Ease of expansion	Brief	Long	Long	Brief (unable to control differentiation)	Poor
Type of use	Autologous	Allogenic or Autologous	Allogenic or Autologous	Allogenic	Allogenic

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Management Team

David McWilliams, CEO, Director

- 30 years of experience with private and public biotechnology companies
- President and CEO of Encysive Pharmaceuticals (ENCY) for 10 years raising $250 million in public financing and corporate partnerships
- Licensed, developed, and received FDA approval for an anticoagulant (Argatroban which was launched by GlaxoSmithKline in 2004)

Jim Williams PhD, COO

- 10 years heading up regulatory affairs at OSIRIS, PowderJect, Wyeth, Aventis
- 4 years FDA, CBER, OVRR
- 20 years basic and applied research for NIH, NIAID, US Navy, FDA, US Public Health Service
- 130 publications in the areas of infectious diseases, vaccinology, oncology and 4 books

Lynne Hohlfeld, CFO

- Over 20 years of financial management experience, certified public accountant
- Held positions of COO, CFO and controller in private and public life science companies –Bacterial Barcodes, Spectral Genomics, LifeCell (LIFC)

Donna Rill, VP Operations

- 30 years of extensive clinical and research cGMP laboratory experience with cell therapy at St. Jude's Hospital, Baylor College of Medicine and Opexa Pharmaceuticals

Financial Summary

Financing Proceeds	
–April 2006 Financing	$23M
Cash as of June 30, 2006	$20M
Headcount	34
Cash Survival	Q3 2007
Outstanding Common Stock	6.7M shares
–1-for-10 Reverse split June 2006	
–Nasdaq Global Market Listing September	

Opexa Near Term Milestones

2H 2006

- Tovaxin Phase I/II study complete
- Phase IIb – First patient Randomized
- Stem Cell – Diabetes Preclinical Study
- Publication of RA paper with China clinical data
- FDA Pre-IND meeting for RA T cell program
- FDA Pre-Pre-IND meeting for diabetes

1H 2007

- Tovaxin Phase IIb - fully enrolled
- IND filed for RA
- IND filed for diabetes

2H 2007

- Tovaxin Phase IIb - Descriptive analysis
- Initiate Phase I for Diabetes