

# JACOB K. PIETRZAK, MD

## Objective

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A challenging teaching position in biotherapy and regenerative medicine and clinical research in therapeutic biomodulation.

## Professional Accomplishments

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### **1993 – Present: Cellular Biology Therapy “Cellbiot”, Pittsburgh, PA/Nowy Sacz, Poland**

- Development business activity for cellular biological therapy/Established “Cellbiot”

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### **1993 – Present: Allegheny County Coroner / Medical Examiner, Pittsburgh, PA; On-Call Autopsy Services for Butler County, PA, Washington County, PA, and Children’s Hospital of Pittsburgh, PA**

- Assisting pathology with autopsy, histology and digital photography.

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### **1994 -1995: Visiting Researcher, University of Pittsburgh, Department of Transplantation Pathology, Pittsburgh, PA**

- Development of new techniques PCR in-situ
- Immune response monitoring

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### **1989 -1990: Postdoctoral Research Fellow, University of Pittsburgh Cancer Institute, Pittsburgh, PA**

- Post doctoral research fellow
- Head and neck cancer. Tumor cells and immune cells culture.
- Cancer immunologic monitoring and diagnostic procedures

### **1985 -1988 Assistant Professor of Pathology, Karol Marcinkowski University, School of Medicine, Poland**

- Study for Medical Board Certification of Pathology
- Teaching pathology for medical and dentistry students
- Ph.D. research-- immunobiology of head and neck cancer

## Employment History

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1994 – Present	Vice President	Cellular Biology Therapy “Cellbiot”, Pittsburgh, PA/Nowy Sacz, Poland
1993 – Present	Pathology Assistant	Allegheny County Coroner, Pittsburgh, PA
1994 -1995	Visiting Researcher	University of Pittsburgh, Department of Transplantation Pathology, Pittsburgh, PA
1989 -1990	Postdoctoral Research Fellow	University of Pittsburgh Cancer Institute, Pittsburgh, PA
1985 -1988	Assistant Professor of Pathology	Karol Marcinkowski University, School of Medicine, Poznan, Poland

## Jacob K. Pietrzak

### Education

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1977 – 1983	M.D.	K. Marcinkowski University, School of Medicine, Poznan, Poland
1983 -1984	Internship	University Hospital, Poznan, Poland
19084 -1987	Residency	University Hospital, Department of Clinical Pathology Poznan, Poland
1987	M.D. Pathology	Polish Board of Pathology

### References

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References are attached

## **MEMBERSHIPS IN PROFESSIONAL AND SCIENTIFIC SOCIETIES**

1983-1988: Polish Immunological Society  
1992: Society for Biological Therapy  
1992: The Cell Transplant Society

## **CONFERENCES AND MEETING ATTENDANCE**

- Head and Neck Oncology Research Conference, Las Vegas 1990
- International symposium. Tumor immunology: Basic Mechanisms and Prospects for Therapy, Pittsburgh 1991
- First International Congress of the Cell Transplantation, Pittsburgh 1992

## **PUBLICATIONS**

1. J. Zeromski, Z. Szmaja, A. Kruk-Zagajewska, J. Szczypinski, J. Pietrzak (1983): Subpopulations of tumor infiltrating cells in laryngeal carcinoma. "Oncologicum 1983" - K. Marcinkowski University School of Medicine Press, Poznan, Poland 115-120.
2. J. Zeromski, A. Kruk-Zagajewska, A. Rewers, J. Pietrzak (1985): Early regional metastases after surgical treatment of laryngeal carcinoma and immunofluorescent assessment of tumor infiltrating cells in primary tumor. Otolaryngologia Polska (Poland); suppl. 1 p. 80-85.
3. J. Zeromski, J. Pietrzak, A. Kruk-Zagajewska (1987): Immunofluorescent assessment of tumor infiltrating cells in laryngeal carcinoma abstract - VIII European Immunologic Meeting 1987 - Zagreb - Yugoslavia.
4. J. Zeromski, J. Pietrzak, Z. Szmaja, E. Jezewska, M.K. Gorny, and A. Kruk-Zagajewska (1988): Evaluation of phenotype of mononuclear host cells isolated from Primary Tumor and peripheral blood of patients with Laryngeal Carcinoma. Acta Otolaryngologica, (Stockholm), 105: 149-154.

## **REFERENCES**

1. Jan Zeromski M.D., Ph.D.  
Head, Department of Immunopathology.  
Poznan University. K. Marcinkowski School of Medicine  
Przybyszewskiego 49  
60 - 355 Poznan, Poland  
ph. (48 - 61) 673 481
2. Mirosław K. Gorny M.D., Ph.D.  
Department of Pathology  
Medical Center, New York University  
550 1st Ave. NY 10016  
ph. (212) 263-6769
3. Włodzimierz M. Kozak, Ph.D., D.Sc.  
Biomedical Engineering Program  
Doherty Hall, Room 2313  
Carnegie Mellon University  
Pittsburgh, PA 15213-3890  
ph. (412) 268-2521

DEPARTMENT OF HEALTH  
AND SOCIAL WELFARE  
POZNAN  
No. 81 1987

**D I P L O M A**  
**of First Degree Specialization**

Jakub Pietrzak M.D. born on June 3, 1958, in Grybow, holding a diploma issued by Medical Academy in Poznan, after specialization of the first degree under direction of Miroslaw Gorny M.D., Ph.D, and after passing the required examinations before the examining board, in accordance with the order of the Minister of Health and Social Welfare, issued on February 1, 1983, regarding doctors, dentists, and pharmacists, and other personnel with higher education employed in the Health and Social Welfare Service (Regulations, Monthly update Ministry of Health and Social Welfare No. 3, Item 19, 1983), obtained:

seal (illegible)

**First degree specialization**

in the field of pathomorphology, and the right to use the title Doctor of Medicine, Pathomorphologist.

Poznan, April 30, 1987

The Chief Physician of the Province  
Lucyna Laszak  
(signed)



March 23, 1992

CERTIFICATE OF ACCURACY

STATE OF PENNSYLVANIA     )  
  SS:  
COUNTY OF ALLEGHENY     )

Robert C. Potts being duly sworn deposes and says:

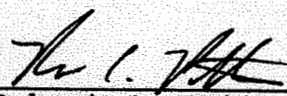
That The Language Center has made the attached translation into the English language from the annexed documents in the Polish language:

Diploma, First Degree of Specialization, of Jakub Pietrzak, from the Department of Health and Social Welfare, Poznan, Poland.


License to Practice Medicine in Poland, for Jakub Pietrzak.

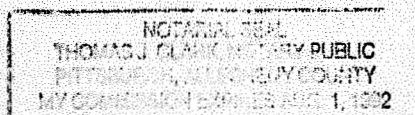
Transcripts, Poznan Medical Academy, for Jakub Pietrzak, 1977 - 1983.

and I hereby certify that the same is a true and complete translation to the best of my knowledge, ability and belief.

  
\_\_\_\_\_  
Robert C. Potts

Sworn to before me this  
twenty-third day of March 1992

  
\_\_\_\_\_  
Notary Public



Member, Pennsylvania Association of Notaries

ATLANTIC FINANCIAL BUILDING  
FOURTH FLOOR  
313 SIXTH AVENUE  
PITTSBURGH, PA 15222  
(412) 261-1101  
FAX (412) 261-1159

**Carnegie  
Mellon**

Biomedical Engineering Program  
Doherty Hall, Room 2313  
Carnegie Mellon University  
Pittsburgh, Pennsylvania 15213-3890  
412-268-2521  
FAX: 412-268-7139  
February 5th, 1993

Re.: Appl. by Dr. Jakub Pietrzak, M.D.

To Whom It May Concern:

I have been asked to write my opinion about Dr. Jakub Pietrzak in conjunction with his application for a position at your Department.

I have known Jakub since 1989 both socially and as a Physiologist at the Biomedical Engineering Program.

Jakub has impressed me as a very knowledgeable researcher in the field of cancer; his special field is the cancer of the larynx; he is equally well informed about general Pathology and Microbiology.

He has a lot of experience doing cancer research, both in Poland and in USA, where he was a post-doctoral fellow at the Cancer Institute in Pittsburgh.

While in Poland, Jakub had taught the Human Pathology Laboratory for the third year students of Medicine during four years. He has demonstrated a very high manual dexterity and a very good performance doing immunological and microbiological tests as well as a talent for teaching the Laboratory class.

Jakub is very personable, very reliable and friendly. He gets along very well with his peers and superiors. His published work is of high quality.

I can only enthusiastically recommend Jakub to you for the position he is seeking at your Department. I am positive that he will soon become an asset for your Department if accepted.

Sincerely yours



Dr. Wlodzimierz M. Kozak, Ph.D., D.  
Professor of Physiology & Bioengineering



Pittsburgh Cancer Institute

*A National Cancer Institute-Designated  
Comprehensive Cancer Center*

*Immunologic Monitoring  
and Diagnostic Laboratory*

*Biomedical Science Tower  
DeSoto @ O'Hara Street  
10th Floor West Wing  
Pittsburgh, Pennsylvania  
15213  
Telephone: (412) 624-0080  
Telex: 199-126  
FAX: (412) 624-0264*

February 9, 1995

To Whom It May Concern:

This is to certify that Jakub Pietrzak, M.D., of the University of Poznan; Poznan, Poland; was a postdoctoral fellow under my direction with the Pittsburgh Cancer Institute's Immunologic Monitoring and Diagnostic Laboratory from 1989 to 1990. During that time, he studied the characterization of new squamous cell carcinoma of the head and neck cell lines.

If you need any further information, please do not hesitate to contact me by phone at 412-624-0096 or by FAX at 412-624-0264.

Sincerely,

Theresa L. Whiteside, Ph.D.,  
Professor of Pathology and Otolaryngology  
Director, PCI Immunologic Monitoring Facility

TLW/cmc



ZAKŁAD IMMUNOPATOLOGII  
KATEDRY PATOMORFOLOGII KLINICZNEJ  
Akademii Medycznej im. K. Marcinkowskiego  
DEPARTMENT OF IMMUNOPATHOLOGY  
CHAIR OF CLINICAL PATHOMORPHOLOGY  
University Medical School

ul. Przybyszewskiego 49  
tel. 67-68-41 w. 486-9  
67-34-81

60-355 Poznań, Poland  
Fax 520-455  
671-232

Poznań, 12nd December 1992

To whom it may concern

Dr Jakub Pietrzak graduated at Poznań University Medical School in 1981.

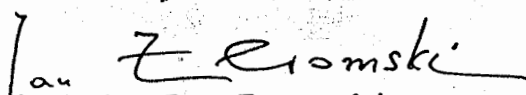
Since his student time he was interested in immunology and joined a member of student research group at the Department of Immunology. Later he became affiliated as a junior research assistant in the above mentioned institution. His interests focused on host cell - tumor cell interactions in human cancers. He became a member of study group on local anti-tumor immunity in head and neck cancers. His involvement to this group included isolation of cells in short term cell cultures, performing tests of cell mediated immunity. Apart from technical aspects he was always full of new ideas related to the topic of tumor host interactions - sometimes unrealistic but nevertheless stirring ferment in established way of thinking. It was also due his permanent wish of reading scientific literature and to attempts of linking knowledge of physician with knowledge of laboratory worker. Apart from research work he trained as a pathologist and become qualified specialist in morbid anatomy.

He was also engaged in teaching pathology to medical and dentistry students.

His professional and scientific career became severely disturbed by political events in Poland in 1980-81. During martial law he was arrested and put in prison as a carrier of underground press of Solidarity Union. Although he was released relatively quickly he decided to emigrate together with his family, firstly to Greece and later to USA. Thus my contacts with him became ceased almost five years ago.

I remember him as a passionate research worker interested in various fields of immunology and cell biology, having his interests somewhat too much dispersed, very active in stimulating discussions.

He may be valuable member of any research team engaged in various aspects of tumor immunology and immunopathology.

  
Prof. dr hab Jan Zeromski





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550 First Avenue, New York, N.Y. 10016

Cable Address: NYUMEDIC

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Department of Pathology

(212) 263- 6769

FAX: (212) 951-6321

## RETURN ADDRESS:

c/o VA Medical Center

423 East 23rd St., Room 18124N

New York, N.Y. 10010

November 23, 1994

TO WHOM IT MAY CONCERN:

I have known Dr. Jacob Pietrzak since he was a third year medical student in Poznan University Medical School. He started research under my direction and has demonstrated a high standard of performance in developing experimental as well clinical immunological tests.

After his graduation in 1983, he was trained under my direction to be a specialist in pathology and was board certified in 1987. He was also promoted to the rank of teacher of Pathology in the Pathology Department, and was engaged in teaching pathology to medical and dentistry students.

Since his research was focused on tumor immunology, he decided to accept a post-doctoral fellowship at the Pittsburgh Cancer Institute. During that time, he has found very important pathways for immuno tolerance induction.

I strongly recommend Jacob. I am confident that his background, enthusiasm and clear sense of purpose would be of great value to your institution.

Sincerely yours,

A handwritten signature in cursive script, reading "Miroslaw K. Gorny".  
Miroslaw K. Gorny, M.D., Ph.D.  
Associate Professor

# JKP CD4+

lymphocyte precursors expansion for treatment of human diseases.



**DUQUESNE UNIVERSITY**  
410 MELLON HALL • PITTSBURGH, PA • 15282

MYLAN SCHOOL OF PHARMACY  
TELEPHONE (412) 396-6380  
FAX (412) 396-5130

December 2, 1997

The Kosciuszko Foundation  
American Center for Polish Culture  
Pittsburgh Center  
5117 Dolores Drive  
Pittsburgh, PA 15227

15 East 65th Street  
New York, NY 10021-6595

Dear Presidents,

I am a scientist at Duquesne University and currently work in the area of melatonin receptor research. In particular, I am focusing on the effects of melatonin at the level of the cell--in particular on the mechanisms underlying its ability to relay its signals throughout the cell. I would like to expand my research and determine the effects of melatonin on TNK CD<sub>4</sub> lymphocyte precursors--cells involved in the immune system as discovered by a Polish scientist, Jacob Pietrzak. In many studies, melatonin has been shown to influence the immune system. Besides Jacob, several other Polish Medical Centers will also be collaborating with us on these projects. We are also concentrating on developing a Cellular Biotherapy Center in Pittsburgh called the Cellbiot Institute. We are seeking your recognition and assistance in this endeavor and would welcome any students and fellows provided by the the Kosciuszko Foundation to aid in our growth and development as a science institute. If you have any further questions, please feel free to contact me.

Thank you for your consideration,

Paula A. Witt-Enderby, Ph.D.  
Assistant Professor of Pharmacology  
and Toxicology

# RESCUES 2008 Conference

**“What is new in Europe in the field of regenerative medicine? “**

## **& Workshop**

**“Toward MSC/MAPCs harmonization”**



*Stockholm, photographed by Lasse Skog*

29 September – 1 October 2008



**Karolinska  
Institutet**



#10. Human CD4<sup>+</sup> T Precursor cells (designated JKP after author's name) expansion for regeneration of tissue, using bio-compatible materials and cells  
Jacob Pietrzak\*, Nowy Sacz, PO

**Industrial speaker confirmation letter of no commercial speech signature provided:**

yes ( x ) no ( )

Oral presentation yes \* ( x ) no ( ) Poster (x) Survey (x)

( x ) 2. A potential cross talk project for stem cell community, toward global harmonization  
Workshop

**10a. Title:**

**Human CD4<sup>+</sup> T Precursor cells (designated JKP after author's name) expansion for regeneration of tissue, using bio-compatible materials and cells**

**Author:**

Jacob Pietrzak\*

\*Email: jkpietrzak@aol.com

**Institution-affiliation and address:**

Eu CellBiot-regeneron, Al, Wolnosci 19, 33-300 Nowy Sacz, Poland

**Introduction:**

One of the methods of health control, between others is the control of the level of stem cells.

Normally adult stem cells (do not mix with embryo embryonic stem cells), are contain in the blood and are in proportion 1 in 100 000 of white blood cells. With age (40-50) or due to sickness, number of this cells declines, what influences negatively on health and slowing the process of body regeneration.

**Methods:**

For the maintenance of the adult stem/precursor cells activity it exists few following methods:

1. Prophylactic: Healthy life, nutritional supplement (minerals, vitamins, proteins; thymostimulina, melatonin, reversin).

2. Medical cure: Transplantation.

**Results:**

The attempt to expand immature human CD4<sup>+</sup> T-precursor cells using the bio-compatible materials is only partial successful.

The phenotype of the expanded T cells is characterized to be: mostly CD3<sup>+</sup>, CD4<sup>+</sup>, NK CD56<sup>-</sup>, not cytotoxic cells, with a 500-fold expansion of cell number using this method.

**Conclusion:** The use of adult stem/precursor cells, can be:

Therapeutic/invasive, haematology / oncology, blood transfusion, tissue and organ transplant, bio-programme and bioengineering using bio-compatible materials and cells, therapeutic lab/clinics and biomedical industries.

**References:**

J. Zeromski, J. Pietrzak Tumor infiltrating lymphocytes, Acta Otolaryngologica 1988, Stockholm; J. Pietrzak CD4<sup>+</sup> lymphocytes precursors. Congress of Immunology 2001, Stockholm.



**Karolinska  
Institutet**

Pittsburgh, July 19, 1996.

Dean of Medical College of Pennsylvania  
3300 Henry Avenue  
Philadelphia, PA 19129 ,

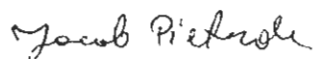
Dear Sir,

I am seeking a teaching position in biotherapy and I am also interested in organizing a new clinical program in therapeutic biomodulation.

I have had extensive experience in biotherapy including discovery of T/NK lymphocyte precursors and development of technology for their expansion *in vitro*. This finding significantly contributes to effective treatment of AIDS, cancer, transplant rejections and autoimmune diseases. Presently, I am involved in developing the new cellular biological therapy business "Cellbiot" in Pittsburgh.

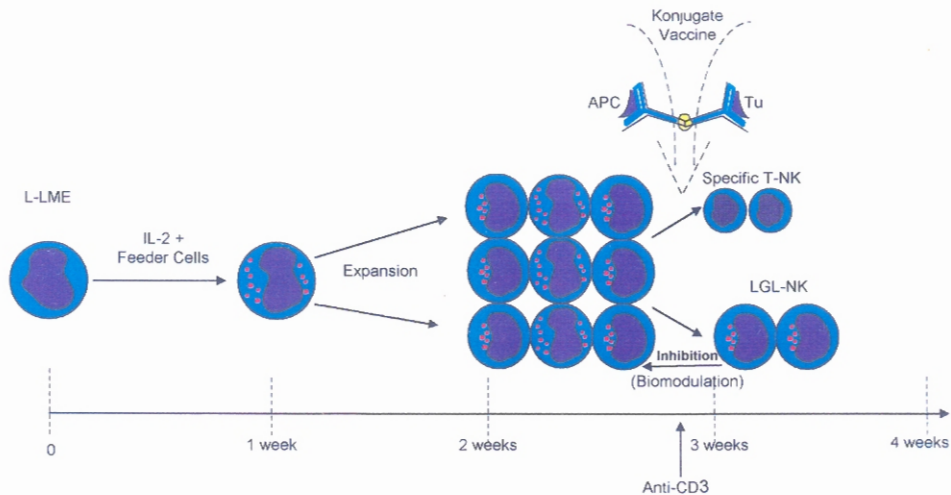
I would be glad to be associated with your Medical School. Enclosed is my resume with my address and phone numbers.

Sincerely



Jacob Pietrzak

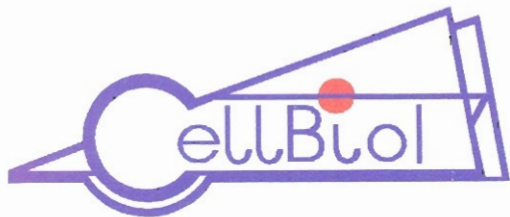
# T/NK Precursors Expansion





dr. Salk -1995 rok

FUNDACJA – PIETRZAK  
BIOLOGICZNE LECZENIE



31-143 KRAKÓW, UL. BASZTOWA 17



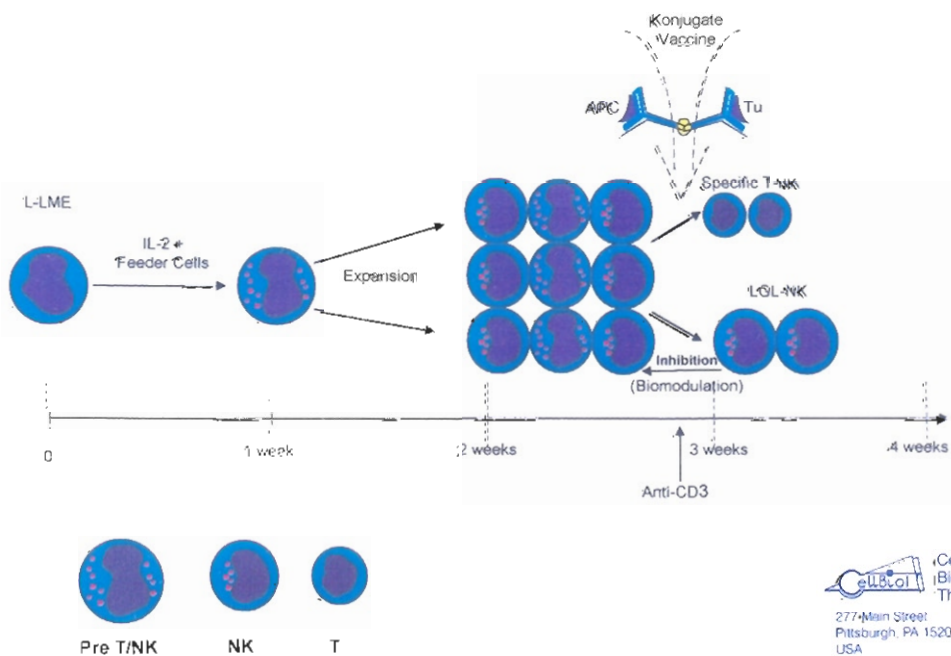
Dear Sir.

I have had extensive experience in biotherapy including discovery of T/NK lymphocyte precursors and development of technology for their expansion in vitro. This finding significantly contributes to effective treatment of AIDS, cancer, transplant rejections and autoimmune diseases. Presently, I am involved in developing the new cellular biological therapy business "Cellbiot".

sincerely

dr. Jacob Pietrzak

## T/NK Precursors Expansion



Cellular Biological Therapy, **CELLBIOT**, is planning to design and market a unique population of therapeutic cells (T/NK) to improve the generation of cells for various clinical processing use for the effective treatment several deadly diseases.

This unique technology differentiates Cellbiot cells from its competitors and provides Cellbiot with a definite market advantage, but several steps must be passed to eliminating market resistance.

Cellbiot expects to retain its advantage through appropriate intellectual property protection. FDA approval will be necessary. We anticipate that Cellbiot T/NK cells fall into the emergent category and approval is expected to take 90 days.

The management of Cellbiot believes that the most effective initial operating strategy is one, which takes advantage of the regional infrastructure relative to the manufacture, bouncing and distribution of its product thereby avoiding significant expenditures and the burden of initial fixed operating costs. While these types of contracted service relationships need to be carefully managed to ensure quality; the access to established manufacturing - distribution processes and technology will be of value to Cellbiot in the early stages.

The value lies in enabling management to focus on customer needs and satisfaction for the products on the market and explore ways to exploit our technology in meeting needs expressed by the medical community, as monitored by the physician advisory board.

Cellbiot marketing and sales effort will similarly take advantage of contractual relationships to a large degree. Although management will play an active role in assessing the market and the acceptance of our products, we will consider the establishment of internal sales and marketing program as our product line expands. However our emphasis will be to maintain fixed costs at a low level during initial operation.

Cellbiot initial funding requirements are such that the use of the funds obtained by sponsoring organizations are directly correlated to the actions and progress of the management team. This circumstance minimizes the risk to sponsoring organizations typically encountered when large Cellbiot expenditures precede the operating period. It also allows for evaluation of deliverables at established time periods.

Cellbiot will seek a grant to cover pre-operating costs. The pre-operating period will last approximately nine months and will involve 1. Securing an exclusive technology, 2. Obtaining regulatory approvals, 3. Accomplishing necessary design and cells engineering and finally 4. Developing a marketing strategy. Total pre operating cost estimated to be \$200,000

In addition, the initial six months of working cost is estimated to be \$250,000, during which time the focus will be on implementation of the marketing strategies and meeting production requirements.

The payback of start up will commence during the first full year of self-sustained operations, currently projected to be year two. With regard to repayment of funding, these funds will be paid over a ten-year period.

The projected sales have been conservatively presented in the financial projections. Assumptions relative to sales indicate a growth rate of about 25% per annum. Total revenues will exceed \$15 million for the five-year period. Our initial products will bear a gross margin of approximately 70% due to the relatively low costs of production.

Cellbiot will aggressively pursue the development of new products, primarily funded from the accumulated capital described in the financial statements (app); in addition to projecting the revenues, expenses and profits from Cellbiot initial product, present as a discrete the incremental profits and cash flows associated with the introduction of additional products.

## Introduction

Cellular Biological Therapy also known as "Cellbiot" is one of the world's newest and most important steps towards life expansion. This biotechnology might be available for commercial use. We have a big opportunity for success because we have a key to stop <sup>the</sup> such diseases ~~such~~ as AIDS, cancer, <sup>and consequent</sup> transplant rejection, <sup>and other</sup>. We are preparing the enlarged manufacturing of therapeutic cells called "T/NK lymphocytes precursors." Our technology is <sup>very</sup> ~~really~~ unique, inexpensive and efficient. We are looking for support to produce these cells in Pittsburgh, PA. This city provides <sup>an excellent</sup> ~~a really~~ good opportunity for this project because <sup>the</sup> ~~of~~ <sup>businesses already exist there and the biotechnology field is growing</sup> Several hospitals are improving certain technologies for future therapies. We are ~~also~~ developing the marketing program for foreign countries. <sup>the existing business market</sup>

## Professional details: <sup>bio</sup>

The T/NK lymphocyte precursors CD4+ is a very rare population of cells in the blood (1:100,000 WBC). From the small lineage it is possible to reconstruct the entire immune system by expansion in vitro cells. Immature precursor cells <sup>are really open</sup> for genetic manipulation and reduce the expenses of bioengineering technology. <sup>In addition, we have started</sup> <sup>there</sup> <sup>provide an opening</sup>

There is an opportunity for the development of a new generation of vaccines, which interact directly with immune precursors. This would be a new generation of research in this model.

## Steps:

1. Development of the technology: 1978-1990
2. Consultations: 1990-1992
3. Development of a business program: 1993- present
4. First clinical trial for HIV and cancer: possible before the year 2000

## Needs:

1. Government support and funding
2. Investment from private sectors
3. Marketing and management of the system
4. Implementation of ethics and regulations

## Problems:

1. Very little knowledge about this technology in the public
2. Lack of media coverage
3. Lack of education about the new system
4. Inadequate working conditions

Odbudowa regeneracyjna organizmu ludzkiego, może być możliwa jeśli na strukturze biomaterialów mogą opłaszczyć się komórki prekursorowe do tkanek, polimero-podobne biomateriały - mogą zawierać molekuly wychwytyjące komórki do linii tkanek; endodermy, ectodermy, mezodermy lub bardziej selektywne do komórek prekursorowych jak hemotopoetycznych.

Bardzo dobre zastosowanie ma używanie opłaszczonych klastrów funkcjonalnych komórek, jak np. wysp trzustowych nową dziedziną wydaje się być używanie sklejek scaffoldów polimerowych z komórkami np. do regeneracji tkanki nerwowej lub mięśnia serca.

Koordynacja różnorodnych grup badaczy i nowych technologicznie zaawansowanych firm, może pozwolić na utworzenie użytkowego w leczeniu przemysłu inżynierii tkanek.