

THE OPPORTUNITY

Next Generations Precision Oncology

2018 PRESENTATION



Safe Harbor Statement

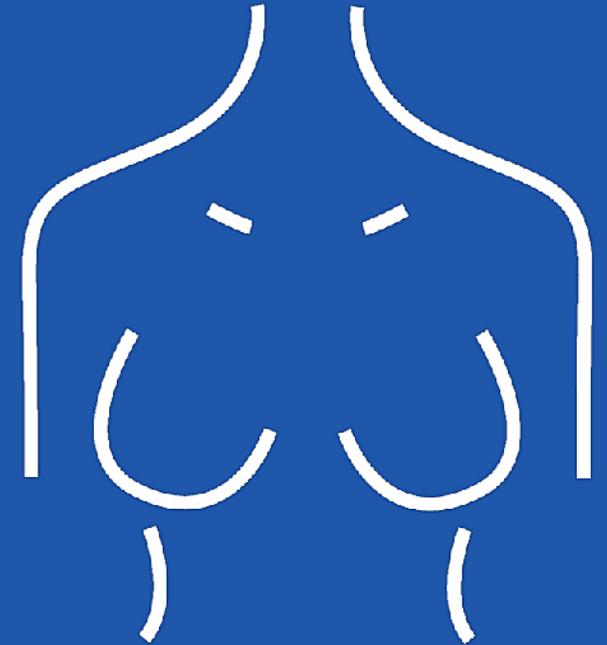
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01 |

INTRODUCTION- THE DISEASE: CHEMO AND RADIATION RESISTANT CANCERS





AS AN EXAMPLE

TRIPLE-NEGATIVE BREAST CANCER (TNBC)

- This breast cancer type has the worst prognosis (30-40% chemo and radiation as well as biological adjuvant Resistance and death within 5 years)
- Characterized by lack of estrogen, progesterone and HER2 receptors
- There are 6 known sub-types
- Strong linkage to BRAC1 & BRAC2 mutations
- No FDA drug is approved for TNBC
- Patients diagnosed with TNBC do not benefit from currently used methods of targeted therapy
- Resistant to Chemotherapy, Radiation & targeted antibody drugs
- STAT3 (focus of GLG drug library) sits at the APEX of all acquired Resistance treatments



EPIDEMIOLOGY OF BREAST CANCER



BREAST CANCER

Is the most common type
of cancer found in
women*

Every **19**
seconds
one case of this type of
cancer is diagnosed**

Every **60**
seconds
one women died because
of the breast cancer**

3/4
women
who got breast cancer were not at risk ***

TNBC morbidity reach 10-20% of all breast cancers cases

\$3.1B will be spent in 2018!

\$15.0B in 2025!!

* American Cancer Society, Global Cancer Facts & Figures 2nd edition

** World Health Organization, International Agency for Research on Breast Cancer, report GLOBOCAN 2012

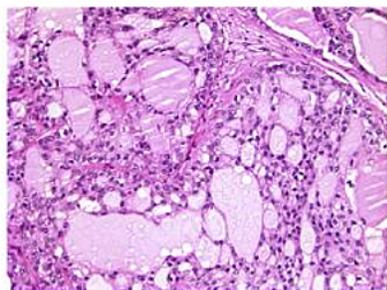
http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx

*** Susan Greenstein Orel, <http://www.breastcancer.org/symptoms/testing/types>

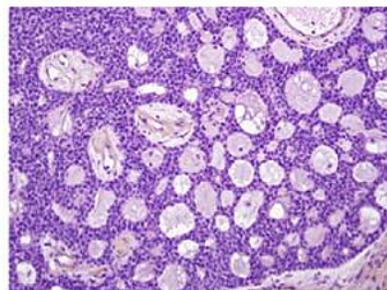


Breast cancers are categorized based on how they appear under a microscope (histology) and whether they express certain critical biomarkers (ER, PR, HER2). Treatment decisions are based on this “typing” (e.g. triple negative or TNBC) but still impersonal, old fashioned, and “one-pill fits all”. The result is low response rates, chronically low duration of response and meager survival gains.

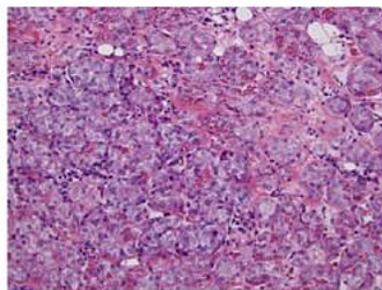
Low-grade TNBCs



Secretory carcinoma
ETV6-NTRK3 fusion gene
ETV6 rearrangements

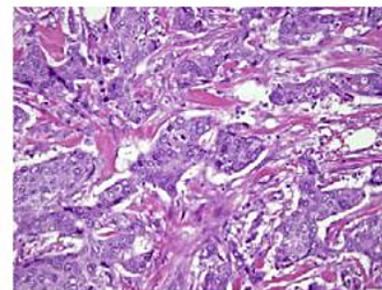


Adenoid cystic carcinoma
MYB-NFIB fusion gene
MYBL1 rearrangements

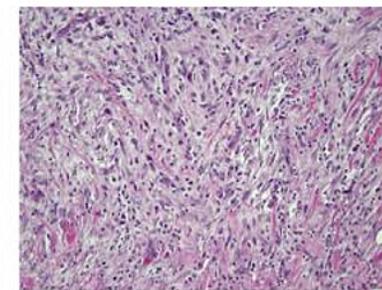


Acinic cell carcinoma
~*TP53* and ~*PI3K* pathway mutations

High-grade TNBCs



Grade 3 invasive ductal carcinoma

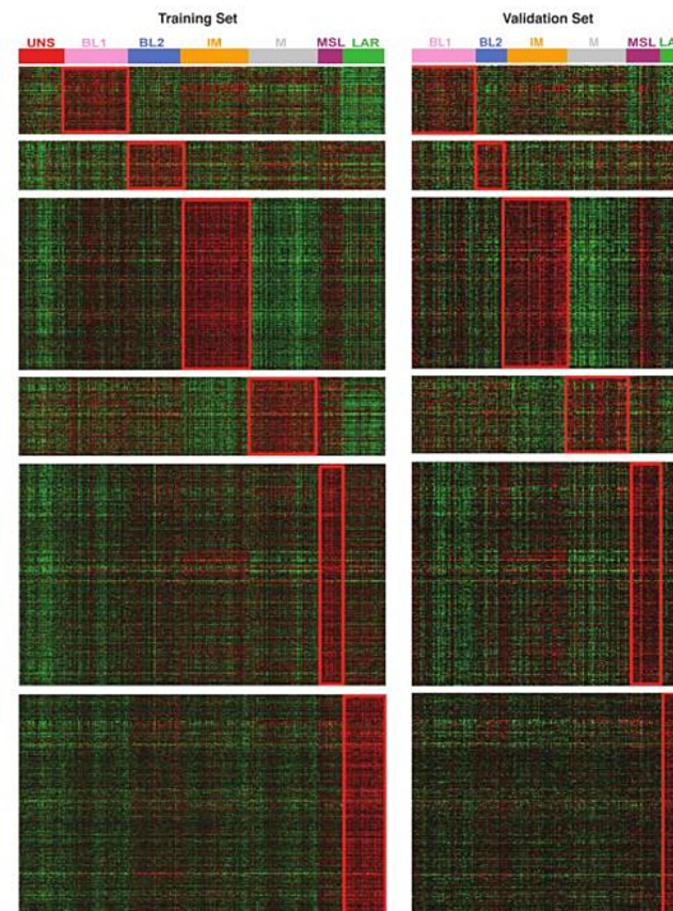


Spindle cell MBC
~*TP53*, >*PI3K* and >*Wnt* pathways mutations

Source: Geyer et al., American Journal of Pathology 187 (10) October 2017.



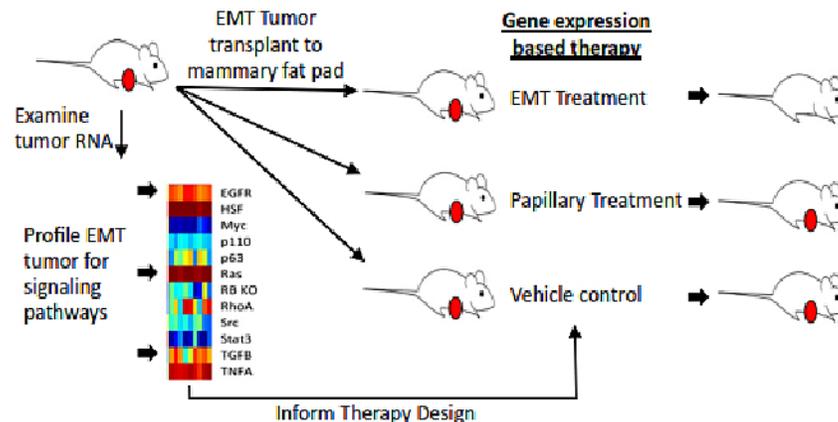
A new cutting edge standard is emerging. We have recently learned that breast cancer types can more meaningfully be broken into genomic subtypes with certain genetic architectures (e.g. “basal like” TNBC). The new standard is to tailor therapy to the subtype of breast cancer, based on how human cell lines and tumor models for these various subtypes behave in laboratory models. The early results are more than a little encouraging; we are literally on the doorstep of a new age in treating breast cancer.



Source: Lehman et al., J Clin Invest doi: 10.1172/JCI45014.



Yet we can do better – much better. As pointed out here (<https://doi.org/10.1007/s00109-017-1620-7>) the next step towards Precision Oncology is to further personalize therapy by assessing not only breast cancer type, and genomic subtype, but actual patient disease cells when selecting therapy. The idea is to culture patient tumor cells and screen them against various therapies to find the most effective; and in so doing, accommodate patient to patient variability and heterogeneity even within common types and subtypes of disease.



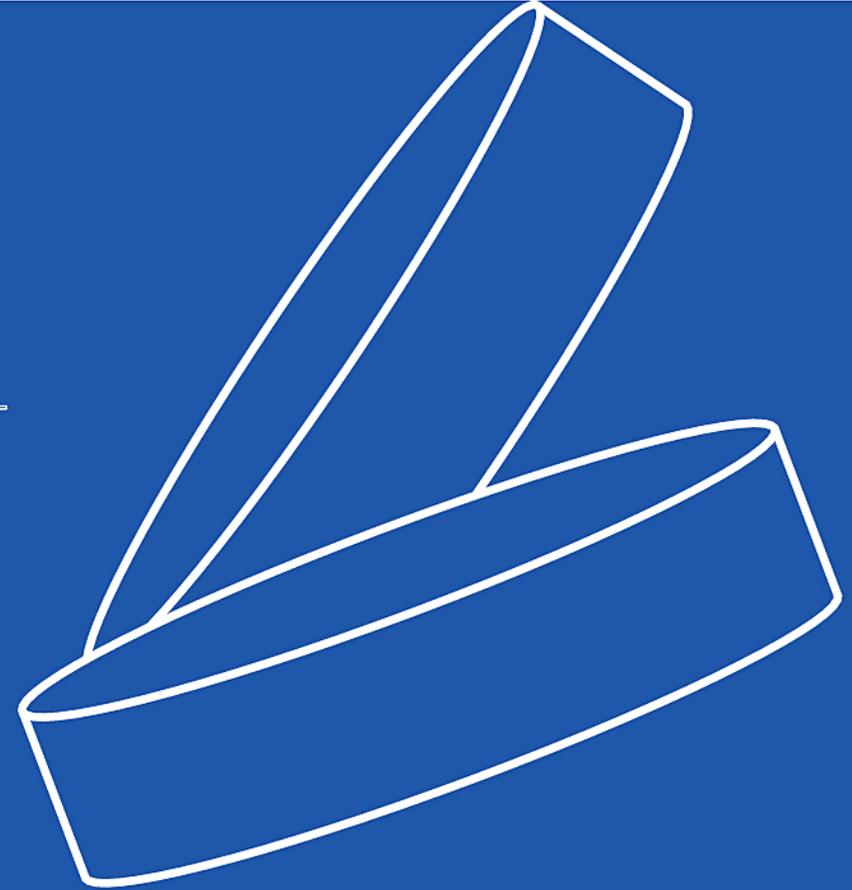
Source: Raez et al., J Mol Med <https://doi.org/10.1007/s00109-017-1620-7>.

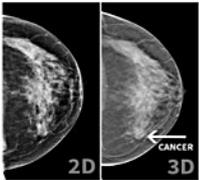
In other words, **if the patient could be administered a personally tailored drug solution for their disease then they will be given, by definition, the most effective therapy possible for their disease**, rather than the best performing drug on average for the entire population of patients with their disease. This is important because **every breast cancer is unique**. Recent methods and tools for this ultimate personalization of therapy have been described but they are impractical and ineffective due to the time it takes to grow the tumor cells (in mouse models), and the fact that these cells drift from the patient's disease character during this time. **GLG's Gx-C3 platform solves this problem."**

02

MARKET OPPORTUNITIES

- RESEARCH TESTS FOR CLINICAL TRIALS
- TEST KITS FOR ONCOLOGY RESEARCHERS
- “HELPING THE PHYSICIAN CHOSE THE MOST EFFECTIVE TREATMENT COURSE FOR THE PATIENT”

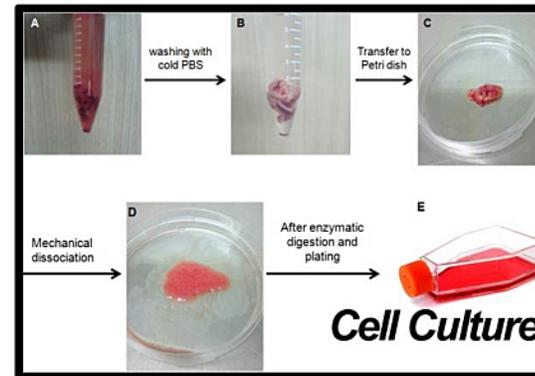




Cell Capture- Each patient's samples are unique

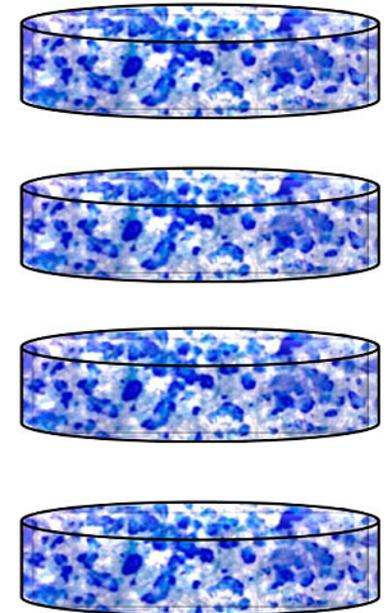


Cell Culture and Expansion- Innovative 3D microenvironment minimizes genetic and phenotypic drift



To Database Comparison and Drug Combination Recommendation(s)

Drug Combination Screening *Ex-Vivo*



CELL CAPTURE, CULTURE AND SCREEN SYSTEMS

TEST 1

Research Kit Sold by US Biologic:

development of the procedure and kit components for collecting and banking cancer cells from patients in clinical trials



Market potential
\$600 mm

TEST 2

Clinical Kits and Cell and Data Banking Services for Oncologists Specializing in TNBC and Ovarian Cancer:

development of a kit containing equipment for the collection from blood, biopsy, resection or ascites fluid and banking selected cancer cells from patients with TNBC or ovarian cancer.

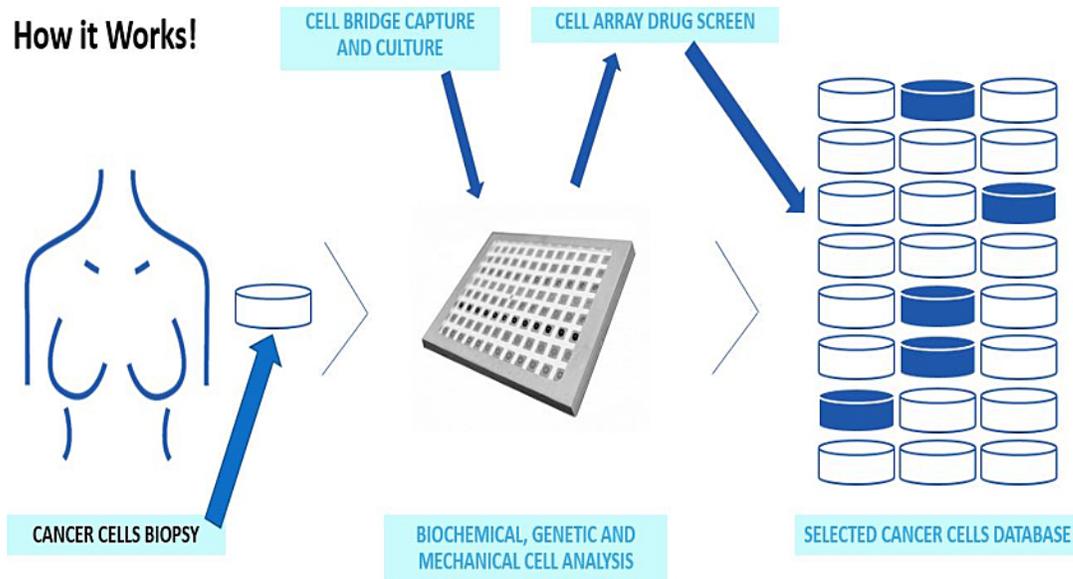


Market potential
\$175 mm

In 2018 company expects first revenues from Research and Clinical Kits

RESEARCH KIT SOLD BY US BIOLOGICAL

How it Works!



- US BIOLOGICAL – leading american manufacturer and distributor who delivers solutions for research organizations, drug development and production – will be the distributor of GLG’s research kits.
- This means access to distribution channel to **74 countries** around the world.
- **7%** royalty to GLG Pharma S.A. (market potential– \$600 mm)
- Kit is designed for:
 - TNBC,
 - Ovarian cancer,
 - 30 cancer types over time will be developed and sold to the research community.

THERE ARE OTHER TECHNOLOGIES FOR TESTING PATIENT CELLS OUTSIDE OF THE BODY BUT THEY ARE NOT AS SPECIFIC, ACCURATE OR POWERFUL AS OURS

Current PDx Mouse

GLG' Capture, Culture, Screen

- More Efficient and Comprehensive Patient Tumor Culture
- Initial Screening Time Compression
- Significant cost reduction

40-44 weeks

5-7 weeks

Very limited number of DRUG combination screened



Large number of combination drugs screened

\$25k-\$35k



\$5k-\$7k

▪ Unlike PDx mouse model based methods:

- 1) We capture cancer cells specifically,
- 2) 3D ex-vivo (outside the body) culture system minimizes “drift”, making our results more relevant to the patients disease.
- 3) Integrative genomic profiles aid in decision making, GLG database self-polishes over time.



03 |

**MISSION, VISION, VALUES, STRATEGY
AND
*MANAGEMENT TEAM***



Vision

To apply recent cell culture and genomics technology advances to improve oncology diagnosis, treatment and monitoring for all patients around the world

Mission

**To use the best technologies available to improve and shorten the time from diagnosis to treatment and provide specific combination treatment options that are tailored for the individual patient locally.
We will spread this technology across the globe regardless of economic constraints of the patient, community, region or country**

Values

**Our success will require business practices that value the patient's health above all else;
the patient will always come first.**



Strategy

Our strategy is to become an integrated drug, diagnostics and devices company.

We will apply our Genomics powered Cell Capture, Culture and Screen Gx-C3 platform in three phases;

- 1) to enable oncologists with our Precision Oncology technology so that they can begin selecting the right approved therapies for their patients based on their patient's disease characteristics (tumor subtypes, and empirical anti-tumor effectiveness, not blanket categories and vague population averages),**
- 2) to develop a new class of repurposed STAT3 Inhibitors Super Generics, and STAT3 Inhibitors Chemical Entities, which will fuel next generation application of our Gx-C3 platform to identify the most powerful STAT3 inhibitor - standard of care therapy combinations and dramatically improve outcomes.**

We will take market share from our competitors through value added combination strategies and regulatory protections awarded to us for rare diseases and orphan drugs.

EXECUTIVE MANAGEMENT



**CEO, Co-Founder
Chief Medical Officer**

HECTOR J GOMEZ, MD, PHD

- Developed 10 drugs which are currently in the market. For example, Enalapril (Vasotec) and Lisinopril (Prinivil/Zestril),
- Former CEO & President of Transcend Therapeutics Inc.,
- Former Vice President of Medical Affairs for Vertex Pharmaceuticals Inc.,
- Former Executive Director at Novartis (formerly known as Ciba-Geigy Corporation),
- Former Senior Director at Merck/MSDRL Corporation,
- He served as the Chairman of the Board of Directors of DNAPrint Genomics Inc. and as Scientific Advisor for Athena Capital Partners Inc.



COO, President, Co-Founder

RICHARD H. GABRIEL B.S., MBA

- Former President of Calix Corporation, parent company to Pharm-Eco Laboratories Inc. From 2004 until 2008 he served as Chief Executive Officer and President for DNAPrint Genomics Inc.,
- Successfully completed formation of several private and public companies in the genetics, chemistry and pharmaceutical fields.
- Has been a part of the development of four successful drugs that include: Amprenavir (VX-478), Emtricitabine (FTC), Altretamine (Hexalen), Zalcitabine (DDC).
- A Supervisory Board member of Biofrontera AG (a public German company focused on dermatology).

UNIT DIRECTORS



TONY FRUDAKIS, PHD, SR VP GENOMICS MEDICINE

- Former CEO of DNAPrint genomics, Inc., which made history and earned international media attention by developing innovative consumer and forensic genomics products.
- Executive manager of both private and publicly traded companies.
- Founder and CEO of Okeanos Technologies.
- Thought leader in the life sciences - Author of graduate level textbook on Human Genomics, dozens of conference presentations, publications and patents. y developing innovative consumer and forensic genomics



ROBERT BALLAS, PHD, DIRECTOR OF DIAGNOSTICS

- Led development and commercialization of over 45 diagnostic products including 22 oncology assays Research Director and Research Fellow at DuPont Medical Products and Dade Behring Diagnostics leading to over \$200M in product sales.
- Director of Project Management at DuPont Pharmaceuticals leading Personalized Medicine Team.
- Director or Technology and Project Management at Diagnostic Oncology, CRO leading to over \$150M in client product sales.
- Founder and CEO of Biomarker Associates, Inc. supporting development and commercialization of new products at 8 technology startup companies and 3 major diagnostic companies



Development Program

Cooperating Institutions

Dana Farber-Children's Hospital: Boston

- David A. Frank, MD, PhD. Repurposed STAT3 inhibitors in cancer
- Mark W. Kieran, MD, PhD. Neurosurgeon



David Frank



Mark Kieran

Mayo Clinic and Children's Center: Minneapolis

- David J. Daniels, M.D., Ph.D. Evaluating STAT3 inhibitors in DIPG and other brain tumors



David Daniels



MANAGEMENT IN POLAND

PIOTR SOBIŚ

CEO

For over 10 years associated with financial industry. He specializes in corporate management and also in business and financial analysis. He began his career in 2005 as a financial analyst in companies involved in receivables trading. For nearly seven years he is associated with investment fund in the telecommunications sector listed on the stock exchange. At that time he was the part of the boards of shareholding companies in Poland and Great Britan. He was responsible for corporate governance and business analytics. He hold several years of experience in the field of capital market regulations in Poland, and applies it during trainings for listed companies.

DR ADRIAN JANISZEWSKI

Preclinical Research Director

The Top 500 Innovators at the Haas School of Business UC Berkeley program absolvent. Veterinary surgeon, assistant professor in Veterinary institute at University of Life Science in Poznań. Member of the Local Ethics Committee for animal experimentation in Wroclaw and other institutions and associations. From many years, he been managing the implementation of numerous R&D projects with use of laboratory animals. He is an author and co-author of many scientific and popular-scientific publications and many conference announcements presented all over the world.

DR MAŁGORZATA GUZIEWICZ

Clinical Research Director

Has 20 years of clinical experience and 15 years of experience in planning, supervision and carrying out clinical trials in all phases both in international organizations providing clinical research (CRO) and in clinical trials centers. As a researcher she has experience in international drug design researching programs and in new medical technologies in cardiology, diabetology, neurology, rheumatology, oncology, psychiatry, urology, infectious diseases and surgery. As a research project coordinator she deals with planning, organizing, coordination and monitoring of research workflow in medical sciences field.

KATARZYNA ROMANOWSKA

Monitoring and Evaluation Specialist

Healthcare and public health specialist. From 8 years she has been working on realization and cooperation of many research projects in the field of medical sciences, health science (health care, public health) and collaborate with national and foreign scientific institutions. She is a member of Polish Society of Public Health, and cooperate with e.g. NIZP-PZH, OBR WSSK Scientific laboratory, Wroclaw Medical University, Pomeranian Medical University, WUM, WAT and Charite University in Berlin.

04 | CAPITAL REQUIREMENT



CAPITAL REQUIREMENTS

\$0.7MM

Gx-C3 Diagnostic



\$0.3MM

**General costs
and working capital**

Salaries and other outsourced services, administrative costs and set up for the Gx-C3 project costs



TOTAL CAPITAL RAISE: \$1.0MM

UNTIL IPO IN 2018



BUSINESS POTENTIAL

- Significant unmet medical need
- Significant unmet market need
 - The GUARANTEE of safe sales market for a disease covered by the medical insurance in every developed country in the world
 - Lack of real direct competition
- **Unique business model focused on repurposed drugs – application of known compound for a new indication gives development advantages:**
 - Shortening of the clinical development time
 - Lower development risk
 - Lower development costs
- **Potential for orphan designation**
 - Simplified protocols for clinical trials
 - Smaller number of patients
 - Simplified registration procedures
- Market exclusivity ensured by a complex patent protection strategy and application of the registered protection rights
- **Technologies are protected by patents, new patent applications will be filed**

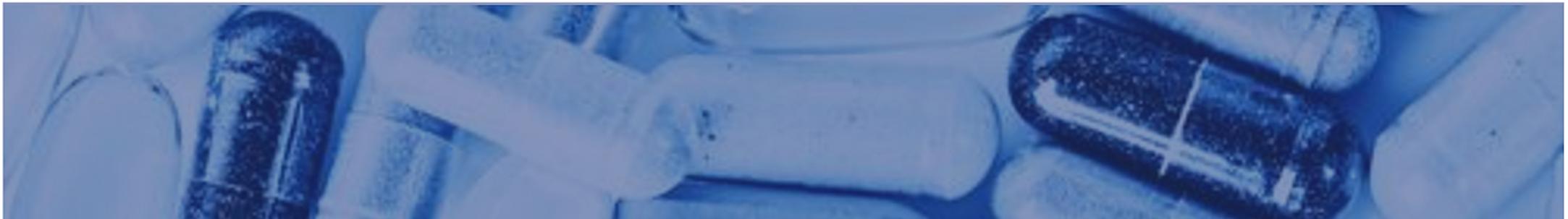
US\$500-\$800 mm – estimated annual sales

05 | SUMMARY



SUMMARY- A \$1.0 MM INVESTMENT FUNDS THE FOLLOWING:

- 01 | **A rapidly growing company** engaged in research and development in the field of biotechnology. Six technologies protected by both American and international patents and two patents registrations.
- 02 | **A competent management and scientific team**, with numerous successes in their fields.
- 03 | **Innovative projects** - Transformative tumor culture and screening platform to deliver personalized pharmaceutical solutions to get the right treatment to the right patient the first time.
- 04 | **Ability to leverage EU fundraising. Targeting two additional technology funding applications in 2018**
- 05 | **Possess required capital for the main projects development, including second cancer target.**
- 06 | **Research and clinical kit** – in 2018 company expects first revenues from Research and Clinical Kit along with database project.





THANK YOU FOR YOUR ATTENTION

Richard Gabriel, BS, MBA;
COO and Co-Founder
GLG Pharma, 601 Heritage Drive, Suite 236,
Jupiter, FL 33458
781-883-6639 Cell
rgabriel@glgpharma.com

Contact for investors: Richard Gabriel,
COO and Co-Founder
781-883-6639 cell
rgabriel@glgpharma.com

