

Controlling cell death to protect human life

**Noble Financial BOCEMb 2012 Equity Conference
January 17, 2012**

NASDAQ: CBLI

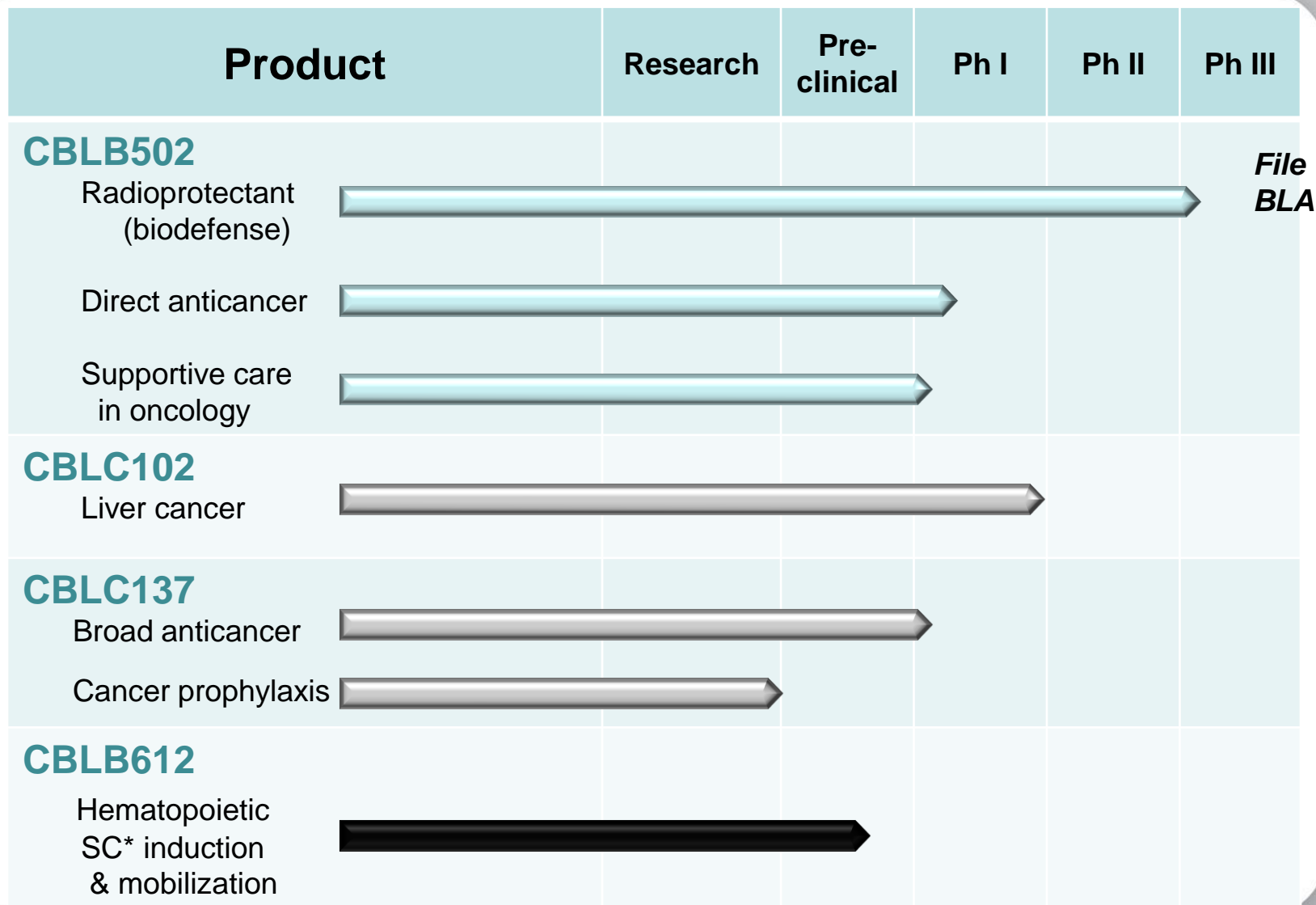
Safe-Harbor

This presentation includes forward-looking statements and predictions, including statements about potential revenue-bearing transactions, the market potential of CBLI's technologies and product candidates, and the potential value of pipeline products. These statements represent the Company's judgment as of the date of this presentation and are subject to risks and uncertainties that could cause actual results of events to differ materially from those expressed in such forward-looking statements. In particular, CBLI faces risks and uncertainties that it may not be able to sustain its business model, that revenues may be lower or expenses higher than projected, that product sales may not increase, that development of product candidates in the Company's pipeline may not succeed or that commercial transactions may not go forward as planned.

Investment Highlights

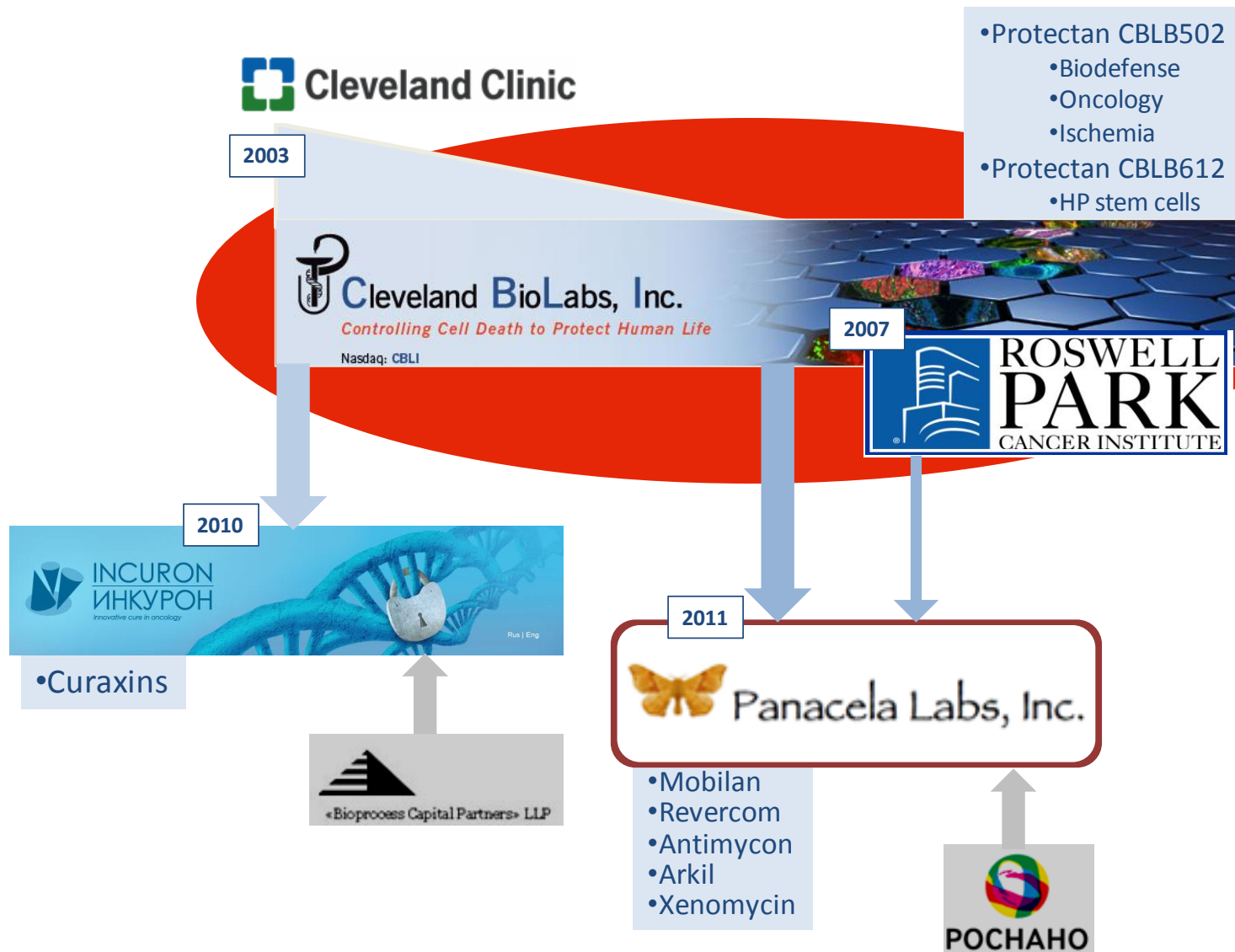
- Broad pipeline of drug candidates with multiple applications
- Accelerated commercialization through biodefense
- Open IND for oncology trials
- Strategic partnerships with Cleveland Clinic and Roswell Park Cancer Institute
- Track record of non-dilutive grants and contracts (~\$100M, including \$30M conditional purchase for CBLB502)
- Patents issued in US, Europe and Asia

Product Pipeline

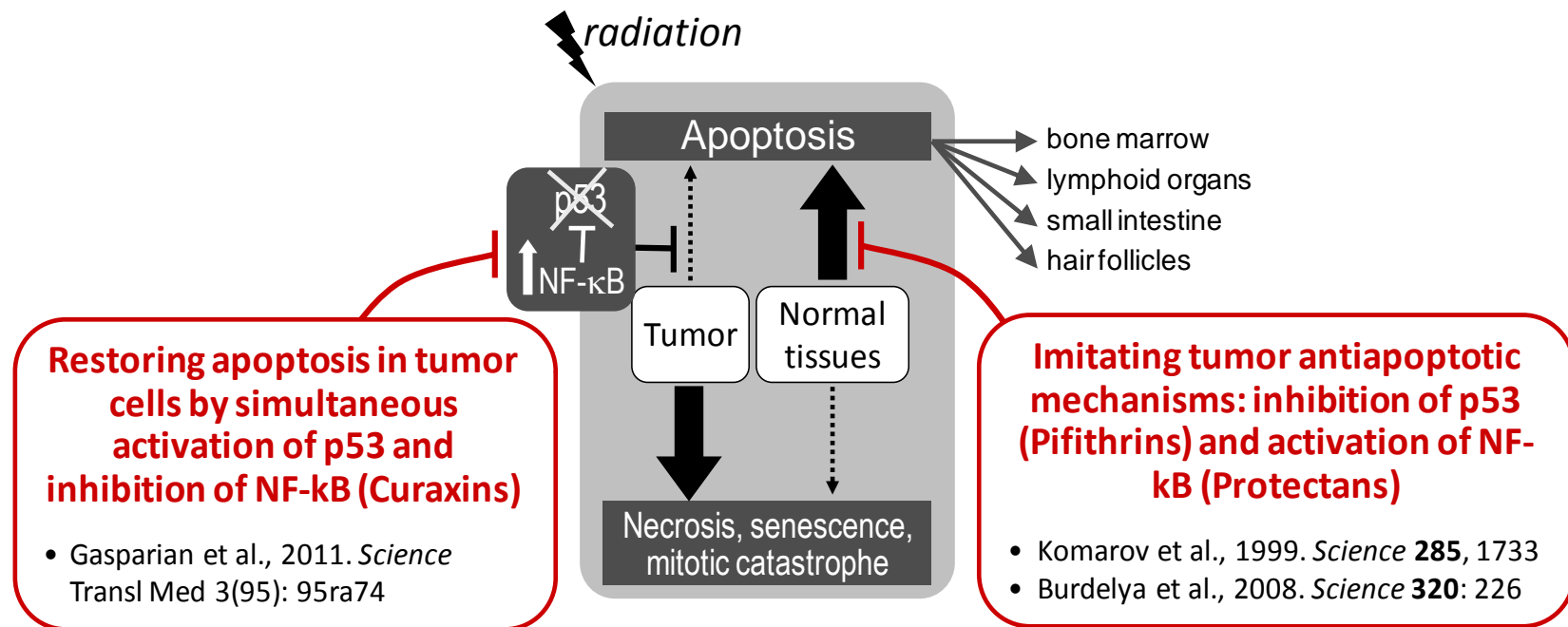


*HSC: hematopoietic stem cells

History, Partners, Joint Ventures



Basic Proprietary Concepts Behind CBLI's Drugs



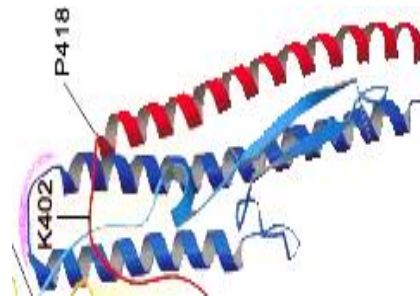
Understanding tumor mechanisms leads to new innovative approaches to cancer treatment and normal tissue protection

CBLB502

Radiation Countermeasure

Supportive Care against cancer therapy side effects

Immunotherapy against cancer



Radiation Countermeasure Opportunity

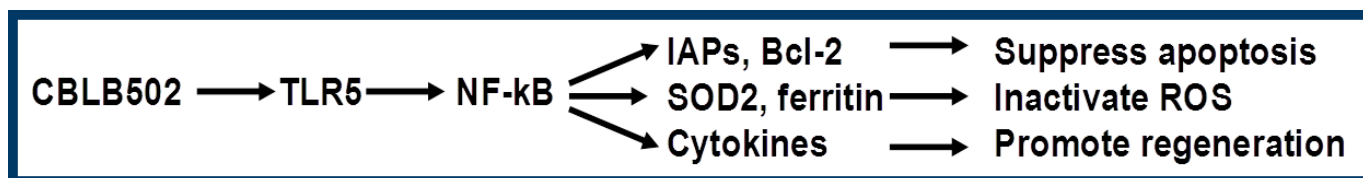
- Nuclear attack identified by US and global leaders as number one security threat
- Reauthorization of Pandemic All hazards Preparedness Act includes radiation as top priority
- Terrorist attack with a 10 KT device will kill 400,000 people in NYC most of them via ARS (Institute of Medicine Report, June 2009)
- Fukushima disaster highlights risk of nuclear industry
- **There are no FDA licensed countermeasures for ARS**

CBLB502 uniquely positioned as therapeutic against ARS

CBLB502 as Medical Radiation Countermeasure

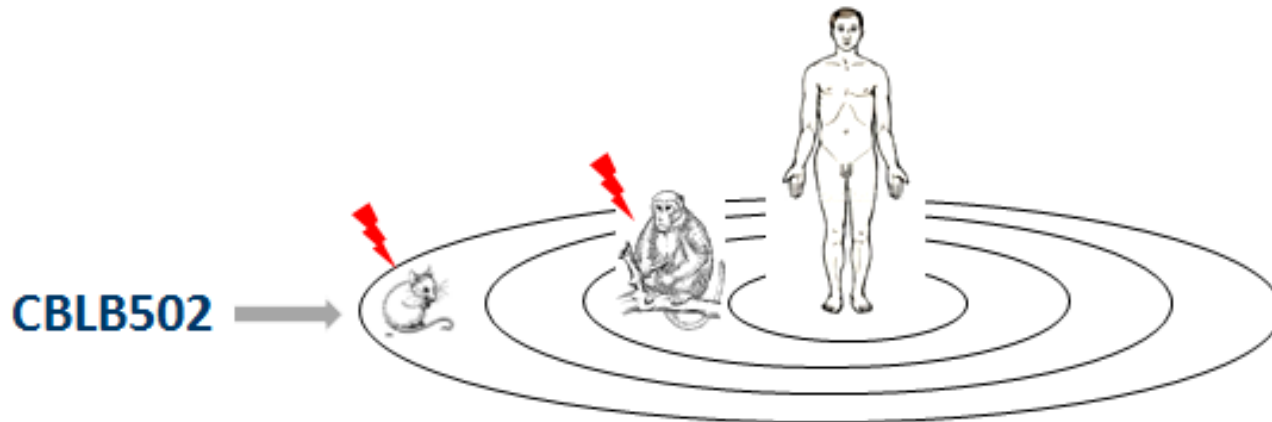
Origin & Mechanism of Action

- Protein of bacterial origin (flagellin) modified to reduce immunogenicity and toxicity and improve production
- Acts through multiple mechanisms mediated by activation of pro-survival NF- κ B signaling pathway



- Selectively protects normal tissues (but not malignant tumors) from radiation
- Increases survival of stem cells and early progenitors of hematopoietic system and stimulates regeneration of different HP lineages
- Reduces radiation damage to and stimulates regeneration of crypts, villi and lamina propria of GI tract

Development of CBLB502 for Licensure as Countermeasure via FDA's Animal Rule



Drug candidates, efficacy of which cannot be directly tested in humans due to ethical reasons, are developed according to Animal Rule:

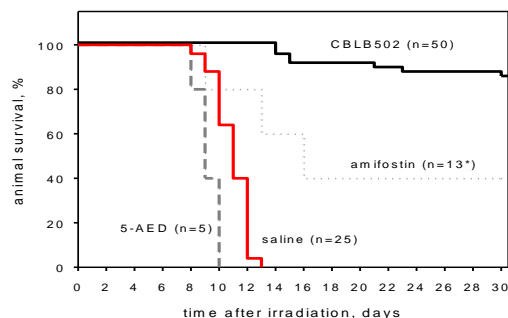
- Efficacy in animal models that mimic human disease
- Human safety
- Well understood mechanism of action to justify selection of objective indicators (biomarkers) in humans

CBLB502 is efficacious in mice and monkeys in protecting and mitigating regimens

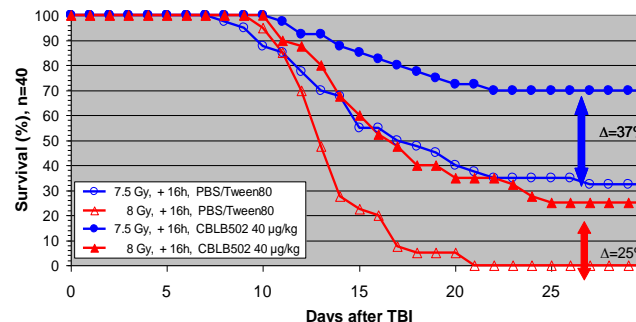
Mice



protection



mitigation

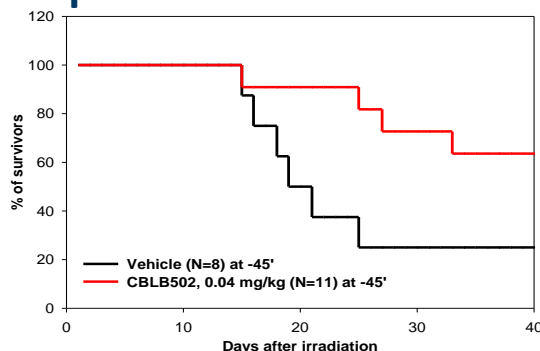


27 studies with non-human primates;
 >180 studies (with multiple strains of mice, types of irradiation, survival, HP, GI and other endpoints)

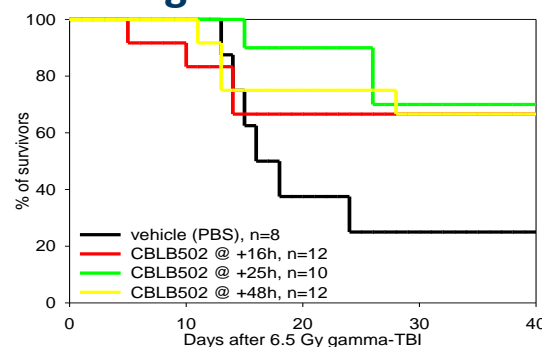
NHPs



protection



mitigation



Summary of CBLB502 Efficacy Features in NHPs

Almost 1,000 non-human primates

- **Species:** rhesus monkey, *Macaca mulatta* (best-studied primate model in ARS); both sexes, young adults
- **Doses of radiation tested:** from LD_{10/40} to LD_{75/40} TBI in survival studies and LD₉₀₋₁₀₀ TBI in GI morphology studies
- **Efficacious times of treatment:** at least from -45' to >48 hours (*treatment at 120 hours is not efficacious*)
- **Efficacious doses of CBLB502:** ≥ 10 ug/kg efficacious at all time points and radiation doses tested, as single intramuscular injection

CBLB502 increases survival (up to 3 times);
reduces severity and duration of thrombocytopenia;
reduces severity of neutropenia; reduces morphological
damage in BM, GI tract, spleen, thymus and lymph nodes

Completed Steps in Production of CBLB502

- Full industrial-scale production process based on recombinant DNA technology
- Single fermentation generating hundreds of thousands of doses
- Reproducibility demonstrated in multiple GMP runs
- Stable as a frozen liquid and in lyophilized form
- Release assays validated



CBLB502 Human Trial Program Summary

- Total of 150 human volunteers received range of doses of CBLB502 in 2 studies
- Dose limiting toxicity (DLT) defined (manifested as flu-like syndrome)
- **Calculated efficacious dose in humans below DLT**
- Adverse event profile predictable and directly related to mechanism of action of CBLB502
- Methodology established to determine projected human efficacious dose (based on biomarkers)
- **All biomarkers project similar human dose**

CBLB502-Biodefense Path to Licensure

Remaining Tasks

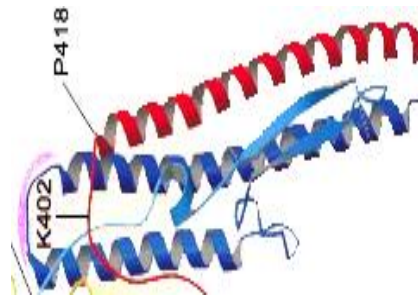
✓ Completed	Remaining steps
CMC	
GMP process developed and tested, drug suitable for clinical trials released	Additional consistency runs
Efficacy	
Data from ~1,000 primates demonstrates dramatic survival benefits and accelerated recovery	Pivotal animal studies
Human safety	
Two trials: 50-subject dose-escalation and 100-subject study completed	Definitive safety study
FDA process	
Open IND, Fast Track Status, Orphan Drug Status	Coordinating study protocols, BLA submission

CBLB502 Federal Contract Funding

GRANT/CONTRACT	TITLE	AMOUNT	DATES
DoD /DTRA , Med. Chem. & Biol. Defense Res. Program	Radioprotective Mechanisms of CBLB502	\$1,300,000	3/07-3/10
DoD/CBMS-JPEO Chemical Biological Medical Systems Joint Project Mgt.	BAA-07-01- Advanced Development of a Medical Radiation Countermeasure	\$10,340,000	3/08-10/09
NIAID (NIH) BioShield Program	CBLB502 mitigation of radiation induced thrombocytopenia	\$1,230,000	9/08-3/10
BARDA (HHS) BioShield Program	BAA-08-08 -Development of CBLB502 of mitigation of HP syndrome	\$15,800,000	9/08-10/10
NIH/NIAID Grand Opportunities (GO) Grant	Protectan CBLB502	\$5,300,000	9/09-9/11
DoD/CBMS-JPEO Chemical Biological Medical Systems Joint Project Mgt.	RFP W9113M-09-R-0010 Advanced Development of a Medical Radiation Countermeasure	\$45,000,000 (15,000,000 + 30,000,000)	9/10-9/13
DoD /DTRA , Med. Chem. & Biol. Defense Res. Program	Radioprotective Mechanisms of CBLB502	\$1,589,106	1/11-4/12
DoD/CBMS-JPEO Chemical Biological Medical Systems Joint Project Mgt.	RFP W9113M-09-R-0010 Advanced Development of a Medical Radiation Countermeasure	\$1,343,759	6/11-9/13

CBLB502

Medical Applications



CBLB502 in Preclinical Model of Local Irradiation

Result:

- CBLB502 efficacious against radiation-induced mucositis and dermatitis

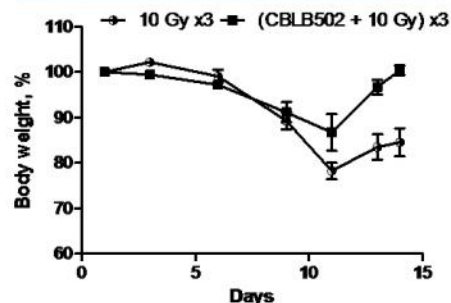
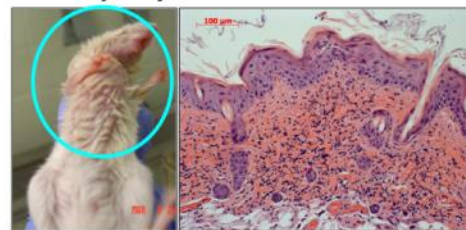
Significance:

- Strong preclinical support of CBLB502 as radiotherapy adjuvant
- Justification of new application (protection from radiation-induced dermatitis)

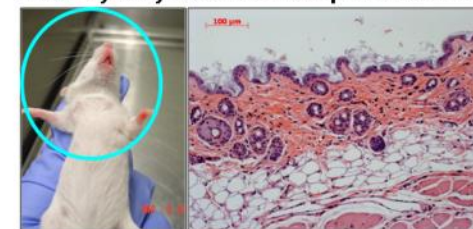
Head and neck irradiation model in mice



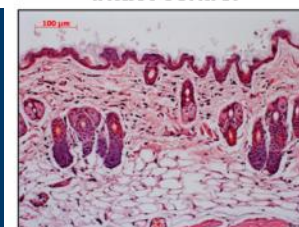
3x10 Gy daily



3x10 Gy daily with CBLB502 pretreatment



Intact control



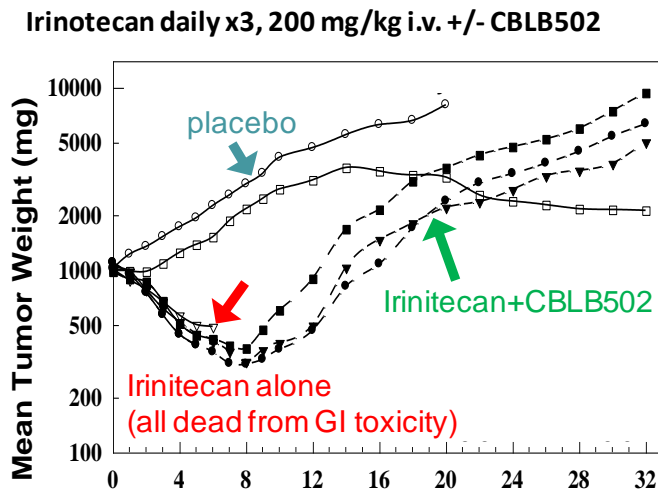
Toll-like Receptor 5 Agonist Protects Mice from Dermatitis and Oral Mucositis Caused by Local Radiation: Implications for Head and Neck Cancer Radiotherapy.
(*Int. J. Rad. Onc. Biol. Phys.*, in press)

Approval of “CBLB502 as supportive care” trial protocol in head and neck cancer patients by Scientific Review Committee of Roswell Park

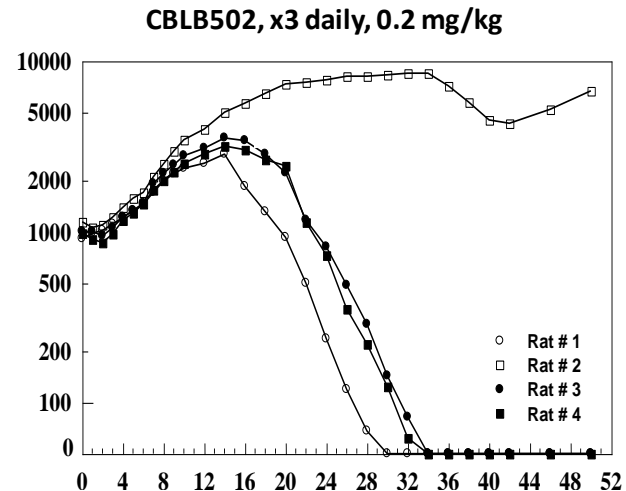
Extending Indications of CBLB502

Mitigation of chemotherapy side effects and direct antitumor action

Irinotecan and CBLB502 against Wart colon tumors in Fisher rats



CBLB502 rescues animals from Irinotecan toxicity with no interference with its antitumor activity



CBLB502 caused complete regression of tumors in part of the animals

CBLB502 displays both supportive care and direct antitumor activities in rat model of colon cancer

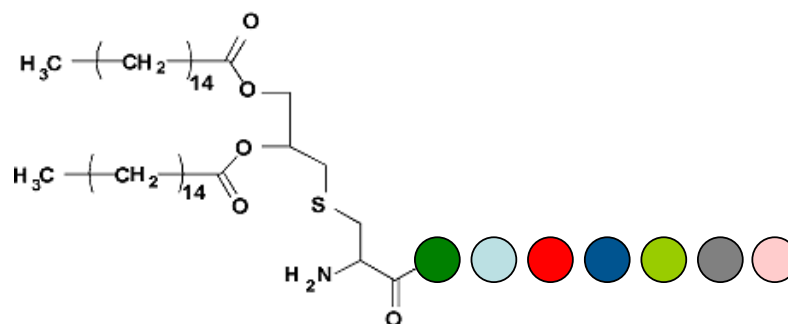
Prospective Clinical Trials of CBLB502 in Cancer Patients

- Reducing severity of mucositis and enhancing efficacy of radiotherapy of H&N cancer
- Reducing severity of bowel toxicity and enhancing efficacy of radiotherapy of pancreatic cancer
- Reducing severity of diarrhea in colon cancer patients treated with Irinotecan
- Treating primary hepatocellular carcinoma (liver cancer)
- Treating liver metastasis of colon cancer
- Treating liver metastasis of breast cancer
- Pre-operational treatment of prostate cancer

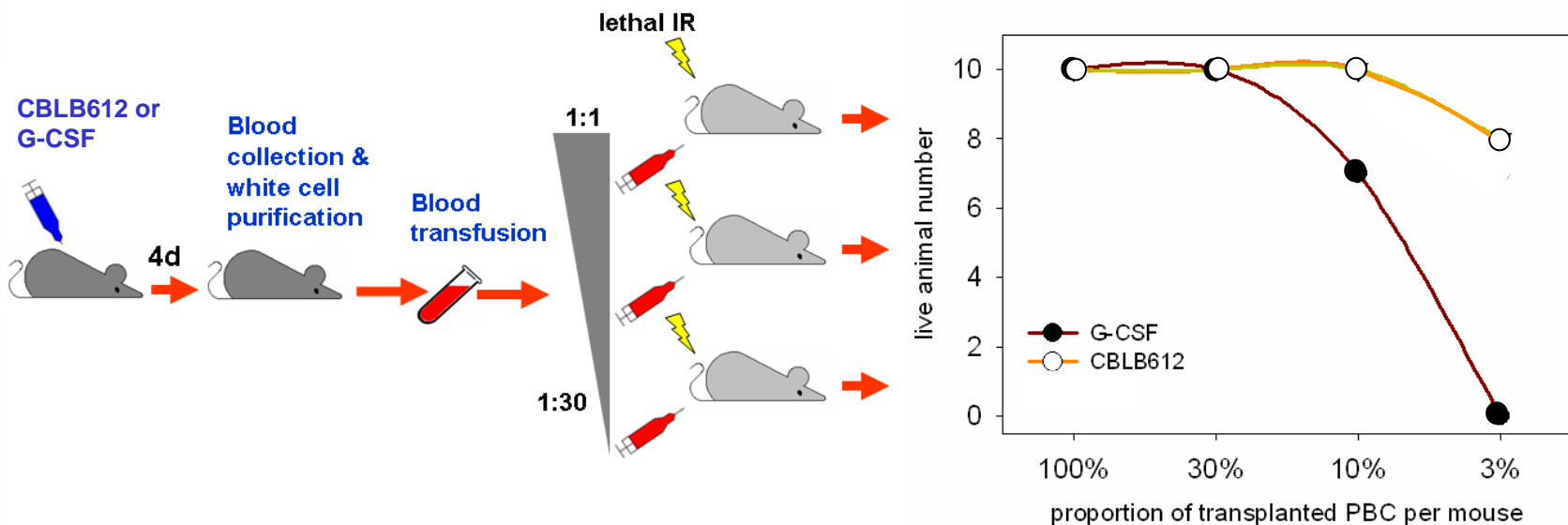
Open IND and Roswell IRB approval for first trial in advanced cancer patients

CBLB612

Stem Cell Inducing Agent



CBLB612 Induces Propagation of HSCs



CBLB612 is 6x more efficacious than G-CSF and induces both early and late progenitor cells
Effects of CBLB612 and G-CSF are synergistic

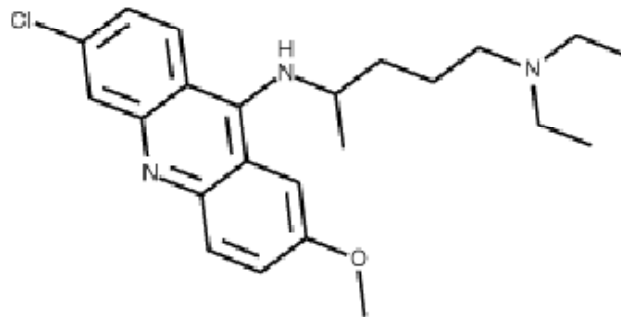
CBLB612 Product Development Strategy

- 6-month Phase I safety study in healthy volunteers enables accurate estimate of induction and mobilization of stem cells in peripheral blood, a direct predictor of efficacy of the drug
- Zhejiang Hisun Pharmaceutical Co. Ltd. licensing deal of 2009 provides additional data and possibility of synergistic development

Principle efficacy assessment in Phase I = potential partnering

Curaxins

Anticancer drugs



Curaxins

- Synthetic small molecules with proprietary structure
- Unique molecular target: simultaneously affect multiple signaling pathways commonly deregulated in cancer cells
- Efficacious in a broad spectrum of preclinical tumor models
- Mechanism of action enables additional clinical indications beyond cancer treatment (anti-inflammatory, anti-infective)
- Recent peer review publications:
 - *Science Translational Medicine* (2011)
 - *Journal of Virology* (2010)
 - *Cell Cycle* (2009)
 - *Oncogene* (2009)

Incuron, LLC



2003



- Protectan CBLB502
 - Biodefense
 - Oncology
 - Ischemia
- Protectan CBLB612
 - HP stem cells

2007



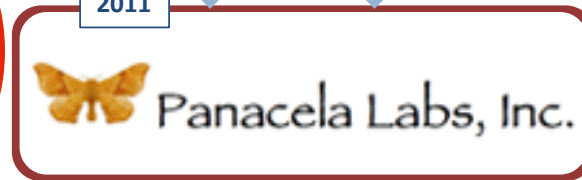
2010



- Curaxins



2011



- Mobilan
- Revercom
- Antimycon
- Arkil
- Xenomycin



Incuron, LLC – JV for Curaxin Development

- 50/50 joint venture with BioProcess Capital Partners LLP, Moscow
- ~\$18M to reach inflection points for primary molecules
- CBLI oversees mechanistic studies and formal development
- Phase Ib trial for prototype CBLC102 in gastrointestinal and liver cancer patients started October 2010 in Russia
- Phase I trial with oral formulation of next generation CBLC137 in solid tumors planned for 2012 in Russia
- Optimization of IV formulation of next generation CBLC137 for future trial in US ongoing

Panacela Labs, Inc.



Panacela Labs, Inc.

- Joint venture with Open Joint Stock Company “RUSNANO”, \$10B Russian Federation fund
- Commitment of up to \$26M over four years
- Portfolio of five compounds entering formal pre-clinical development or hit-to-lead optimization
 - ✓ Mobilan
 - ✓ Revercom
 - ✓ Xenomycins
 - ✓ Antimycons
 - ✓ Arkils
- Development for licensure in Russian market

Milestones

CBLB502 Defense

- Start of pivotal animal efficacy studies
- Start of definitive safety/dose validation trial in healthy volunteers

CBLB502 Medical

- Trial as single agent in advanced cancer patients
- Trial as supportive care in head and neck cancer patients

Incuron

- Completion of CBLC102 trial in Russia
- Phase I trial next generation Curaxin CBLC137

General

- High profile peer reviewed publications

Financial Summary

- **Shares Outstanding:** 35M common, 52M fully diluted
- **Government Grants & Contracts** support CBLB502 for defense and limited medical applications: **\$13M unspent** as of 9/30/11 (excl. \$30M option for first purchase)
 - Continually seeking new grants and contracts as well as modifications to existing grants and contracts to maximize availability of non-dilutive financing
- **Pro forma cash at September 30, 2011:** \$34 million
 - Recognizes \$9 million investment made by Rusnano in majority owned subsidiary Panacela Labs, Inc. on October 4, 2011
- **Other:**
 - \$5 million Russian government Skolkovo grant to Incuron, LLC subsidiary
 - \$7 million milestone investment into Incuron, LLC subsidiary, pending opening of Russian IND for clinical study of CBLC137

Senior Management Team

Chief Executive Officer & President

Michael Fonstein, PhD



- Scientist and entrepreneur
- Founder of The Fellowship for Interpretation of Genomes (FIG)
- Founder and Former CEO of Integrated Genomics, Inc. ('97-03)

Chief Financial Officer

Neil Lyons, CPA



- 30 years of financial and operations management and accounting experience
- 6 years as CFO of a public biotech company
- 15 years experience in federal contracting

Chief Operating Officer

Yakov Kogan, PhD, MBA



- Former Director of Business Development at Integrated Genomics, Inc.
- Expert in technical sales and contract negotiations

Chief Scientific Officer

Andrei Gudkov, PhD, D.Sci



- SVP of Basic Science, Roswell Park Cancer Institute
- Former Chair, Dept. Molecular Biology at Cleveland Clinic
- 30+ issued patents
- 150+ research publications

Chief Medical Officer

Michael Kurman, MD



- 25 years global oncology drug development experience
- Senior positions in clinical operations at CROs
- Led clinical development in several publicly traded biotech companies

Executive Vice President, Regulatory Affairs and Quality Assurance

Ann Hards, PhD



- Over 20 years of regulatory experience at large and small pharma
- Multiple successful NDAs, MAAs, sNDAs, advisory committees

Boards

Board of Directors

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Former CEO, SIGA Technologies

David Hohn, MD
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Institute

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Former CFO and CIO of Experian

Paul DiCorleto, PhD
Chairman Lerner Research Institute,
Cleveland Clinic

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CEO & President, Cleveland BioLabs, Inc.

Andrei Gudkov, PhD, DSci
CSO, Cleveland BioLabs, Inc.

Yakov Kogan, PhD, MBA
COO, Cleveland BioLabs, Inc.

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