An imaging agent for the intra-operative visualization of malignant tissue and structural delineation of brain tumor

September 2015
Forward Looking Statement

Any statements contained in this presentation that do not describe historical facts may constitute forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. Any forward-looking statements contained herein are based on current expectations, but are subject to a number of risks and uncertainties. The factors that could cause actual future results to differ materially from current expectations include, but are not limited to, risks and uncertainties relating to the Company's ability to develop, obtain regulatory approval, market and sell products based on its technology; the expected benefits and efficacy of the Company's products and technology; the availability of substantial additional funding for the Company to continue its operations and to conduct research and development, clinical studies and future product commercialization; and, the Company's business, research, product development, regulatory approval, marketing and distribution plans and strategies. These and other factors are identified and described in more detail in our subscription agreements.
NX Development Corporation: A Privately Held C-Corp

NX PHARMAGEN INC.

NeXosome™ Platform

TOOLS AND METHODS
- Exosome Isolation
- Contract Research

PRODUCT APPLICATIONS

MATERNAL FETAL MEDICINE

ONCOLOGY
- NIH Grants
- Comm. Assays
- Pharma Services

OTHER
- (w/ID'd potential collaborators)
  - Ophthalmology
  - CNS

Gliolan (tumor imaging agent)

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Gliolan (tumor imaging agent)

NX Dev Corp
Gliolan Value Proposition: ROI on Malignant Visualization

<table>
<thead>
<tr>
<th>Problem</th>
<th>Current Solution</th>
<th>NXDC Solution</th>
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</thead>
</table>
| ▪ Surgeon can only debulk tumor that can be seen
▪ Tumors infiltrative and true margins cannot be visualized
▪ What constitutes a gross total resection?
▪ What is the benefit? | ▪ Contrast-enhancing margins determined via pre-op MRI with neuro-navigation; not real time
▪ Shifting occurs as skull is opened; iMRI is complex and not universally available | ▪ Gliolan (5-ALA) will assist in the real-time visualization of GBM
▪ Used with available surgical microscopes
▪ Compatible with iMRI
▪ Light up the tumor so the surgeon has best approach for removal |

EU Approval Data: 64% vs 38% Complete Resection rate; 35% vs 21% 6mth PFS
**Gliolan Marketed for Fluorescence-Guided Surgery**

<table>
<thead>
<tr>
<th>Status</th>
<th>2015 Plan</th>
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<tbody>
<tr>
<td><strong>Product</strong></td>
<td><strong>NXDC to submit Market Approval to FDA in 2015</strong> (Fast track target launch 2016)</td>
</tr>
<tr>
<td>▪ Gliolan (5-ALA) for real-time intraoperative visualization of malignant brain tumor</td>
<td></td>
</tr>
<tr>
<td>o PPV &gt; 90% (Specificity &gt; 85%)</td>
<td></td>
</tr>
<tr>
<td>o Used with commercial surgical microscopes fitted with blue light filter for fluorescence detection (FL400 or Blue 400)</td>
<td></td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td></td>
</tr>
<tr>
<td>▪ Marketed in 31 countries</td>
<td></td>
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<tr>
<td>▪ 70 surgeons @ 48 centers trained under restricted access program</td>
<td></td>
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<tr>
<td>▪ Pre-NDA guidance meeting held Sep 2014 and July 2015</td>
<td></td>
</tr>
<tr>
<td>NDA supported by evidenced based data (505b2)</td>
<td></td>
</tr>
<tr>
<td>8 published studies</td>
<td></td>
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<tr>
<td>5 Phase 2 / 3 studies that supporting EMEA approval &gt; 750 patients</td>
<td></td>
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<tr>
<td>Safety supported by 58,000 patients and manufacturing</td>
<td></td>
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</table>

**Parallel Activities**

- Market readiness and payer impact studies
- Mount Sinai (NY) Multi-site Expansion Study (NCT01445691) (n=100)
- **New multicenter experiential studies:**
  - Confirmation of residual tumor visualization post white light resection (N = 60)
  - Adequacy of Blue 400 / FL 400 devices (N=60)
Principle of Fluorescence-Guided Resections using 5-ALA

5-aminolevulinic acid

\[
\text{COO}^- \\
| \\
\text{CH}_2 \\
| \\
\text{CH}_2 \\
| \\
\text{C} \quad \text{CH}_2 \quad \text{NH}_3^+ \\
\|
\text{O}
\]

Enzymes of heme biosynthesis

\[
\text{Protoporphyrin IX}
\]

Intratumoral synthesis

Non-fluorescent, invisible

Strongly fluorescent
Photosensitizing
**Gliolan: Near-to-Market Asset, High Specificity and Sensitivity**

- Oral imaging agent significantly improves visualization of GBM tumors during surgery
- Increases precision and extent of tumor resection

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**European Ph III study has shown:**

- Significant improvement in complete resection rates ($p<0.001$)
- Progression-Free Survival ($p=0.004$) maintained at 9 months
- EMA Approval 2007; Phase IV safety data in 26,000 pts with no appreciable drug-related SAEs

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*Stummer et al. J Neurosurg. 2010*
<table>
<thead>
<tr>
<th>Study</th>
<th>PPV</th>
<th>NPV</th>
<th>Sensitivity</th>
<th>Specificity</th>
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<tbody>
<tr>
<td>MC-ALS28.GLI</td>
<td>96%</td>
<td>25%</td>
<td>--</td>
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<tr>
<td>MC-ALS30.GLI</td>
<td>97%</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Stummer 2000</td>
<td>99%</td>
<td>50%</td>
<td>90%*</td>
<td>96%*</td>
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<tr>
<td>Panciani 2012</td>
<td>89%*</td>
<td>91%*</td>
<td>91%</td>
<td>89%</td>
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<tr>
<td>Idoate 2011</td>
<td>98%</td>
<td>67%*</td>
<td>89%*</td>
<td>94%*</td>
</tr>
<tr>
<td>Diez Valle 2011</td>
<td>99%*</td>
<td>67%*</td>
<td>92%*</td>
<td>92%*</td>
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<tr>
<td>Roberts 2011**</td>
<td>95%</td>
<td>26%</td>
<td>75%</td>
<td>71%</td>
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<tr>
<td>Hefti 2008</td>
<td>--</td>
<td>--</td>
<td>76-98%</td>
<td>85-100%</td>
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<tr>
<td>Coburger 2014</td>
<td>99%</td>
<td>22%</td>
<td>91%</td>
<td>80%</td>
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* Calculated by applicant; ** Novel handheld non 510K device
### PPV/NPV vs. Sensitivity/Specificity

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**Gliolan:**

- If it lights up, it is tumor (95-99%)
- If it is tumor, it lights up (75-92%)

* Calculated by applicant
Status of Gliolan’s FDA Approval

- 505b2 strategy (EMEA phase 2/3 studies and 8 published studies)
- NDA #208630 submission to achieve US market approval is managed by NXDC and outsourced to a seasoned vendor (ongoing)
- FDA has agreed to Orphan Drug status and to accept both EU data and published data not owned by the SPONSOR (505b2) and analytical methods for EU “turn key” manufacturing (July 2015)
- GMP manufacturing plants in Germany are FDA compliant and currently supply world wide commercial Gliolan. US drug supply prepared under contract with licensor and released by NXDC 3PLs.
- Restricted access training program embraced by FDA
- NXDC will request fast track review and anticipates market authorization H1 2016. Although date certain can never be predicted, we have all indications that the process is going smoothly.
NXDC believes there is an unmet medical need in brain tumor surgery
- Incidence of 10,000 new cases per year
- Expandable to 40,000 malignant tumor cases

Commercial protection for 7 years as Orphan Drug; Launch target 2016

NDA Submission is based upon strong PPV combined with overwhelming safety in pre marketing and 58,000 patient post marketing exposures.

Exclusive license executed with Photonamic GmbH in June 2015

Series A $2M completed with adequate funds to enable NDA success

Series A expansion to $5M will accelerate and increase market penetration
# Estimated Sources and Uses of Funds through 2017

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<th>Source of Funds:</th>
<th>Amount</th>
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<tr>
<td><strong>Expanded Series A round fund raise</strong></td>
<td>$3,000,000</td>
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<tr>
<td>Grants from partners (Zeiss and Leica receivables)</td>
<td>$500,000</td>
</tr>
<tr>
<td>Total source of funds</td>
<td>$3,500,000</td>
</tr>
<tr>
<td><strong>Total Funds Available</strong></td>
<td>$4,400,000</td>
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<table>
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<th>Uses of Proceeds:</th>
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<td>Preparation by third parties for FDA approval including FDA fees</td>
<td>$675,000</td>
</tr>
<tr>
<td>PTN license fees upon FDA approval</td>
<td>$875,000</td>
</tr>
<tr>
<td>Inventory purchases</td>
<td>$150,000</td>
</tr>
<tr>
<td>Market expansion trials (20 leading centers; 80 patients)</td>
<td>$1,600,000</td>
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<tr>
<td>Internal team: Marketing, Administrative &amp; Operations Launch Team</td>
<td>$750,000</td>
</tr>
<tr>
<td>Consulting fees for services of Key Opinion Leaders</td>
<td>$100,000</td>
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<tr>
<td>General operating expenses until profitability</td>
<td><strong>$250,000</strong></td>
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<td><strong>Total uses of Proceeds</strong></td>
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Management Team

Alan Ezrin, Ph.D.
NXPG Co-Founder, Chairman & CEO

- Previous co-founder of Cardiome Pharma and ConjuChem, both of which matured from start-up stage to multi-hundred million dollar market cap firms under his scientific and business leadership.
- Dr. Ezrin holds a Ph.D. in cellular biophysics from the University of Miami, and serves on the Board of Linus Pharmaceuticals and on the Board of Advisors for the Preston Robert Tisch Brain Tumor Center at Duke University.
- 27+ years of experience in research and business development in both the pharmaceutical/biotechnology sectors in the US & Canada.

Jeff Cooper
Chief Commercial Officer

- 35+ years’ experience as a financial executive.
- Certified Public Accountant, Certified Forensic Consultant and a Fellow at the American College of Forensic Examiners.
- Former manager at the Big 4 Accounting Firm of Deloitte and former Managing Partner of the accounting firm of Cooper and Cobb, CPAs.
- Former CFO of the publicly traded company Spinnaker Software.
- Consulted to numerous Companies at their start including iRobot, Northern Light Technologies and Palm Technologies.
- Graduated with high honors from Northeastern University with a BS in Accounting.

Joe Wyse
Chief Operating Officer

- 25+ years’ experience employed directly or as a consultant to life science companies. He has broad strategic consulting, business development and operational experience.
- For the past 5 years, Dr. Wyse has provided consulting services to or served in part-time CEO, COO, VP or Director roles for several startup pharmaceutical, biotech, CRO, and device companies.
- Founding CEO of Coldstream Labs, a Lexington KY based CMDO.
- Dr. Wyse served as a Director at PriceWaterhouseCoopers and two startup life science companies, Aronex and LifeCell.
- Dr. Wyse holds a Ph.D. in chemistry from the University of Kentucky.
Management Team

Allyn Johnson
V.P., Payer Strategy & Reimbursement

• Founder & CEO of Vineyard Healthcare, designing reimbursement and contracting strategies while commercializing intellectual property at early stage life science companies, universities and clinical laboratories.
• 20+ years’ experience at executive level at health care companies Companion Diagnostics, HealthSmart Preferred Care, Texas Independent Healthcare.
• Mr. Johnson earned his finance degree from Texas A&M University, and is professionally affiliated with Health Care Executive Network, Health Care M&A Advisors, Health Care Physician Practice Management Assoc., Texas Medical Group Management, and National Assoc. of Corporate Directors.

Lenny Grover
Business Analyst Consultant

Lenny is the founder of FinToolbox, which launched Screener.co in 2011. Prior to founding FinToolbox, Lenny spent over three years working as an investment analyst for two early stage venture capital firms (Chrysalis Ventures and Longworth Venture Partners). He has continued to consult with Saunders-Murdock, an angel investment partnership co-founded by a former Chrysalis Managing Director, since leaving Chrysalis in 2009. FinToolbox is an outgrowth of New Media Properties LLC, a company Lenny created to focus on Internet advertising, web based business initiatives, and consulting services in 2002. Lenny graduated Magna Cum Laude with a BS in Computer Science from Cornell University.
Clinical Consultants

Costas G. Hadjipanayis, MD, PhD
Principal Investigator of Multicenter Study of 5-ALA

Dr Hadjipanayis received his medical degree from Jefferson Medical College; completed his residency in neurosurgery at the University of Pittsburgh School of Medicine, simultaneously obtaining his PhD from the Department of Molecular Genetics and Biochemistry. Designated as a Georgia Cancer Coalition Distinguished Scholar, he was elected 2011 President of the Southeastern Brain Tumor Foundation. Dr Hadjipanayis is Professor and Chair, Dept. of Neurosurgery, Mount Sinai Beth Israel; and Director, Neurosurgical Oncology, Mount Sinai Health System, Icahn School of Medicine at Mount Sinai.

Lloyd Zucker, MD, FAANS
Consultant Medical Affairs

Dr. Zucker obtained his BA in Biology at John Hopkins University in Baltimore, Maryland. He then earned his Doctor of Medicine from the University of Medicine and Dentistry of New Jersey/Rutgers. He completed his General Surgery Internship at Middlesex General Hospital, Neurosurgery Fellowship at Hartford Hospital and John Dempsey Hospital in Hartford, Connecticut. His Spinal Instrumentation Fellowship was completed at the University of South Florida in Tampa, Florida. His areas of special interest include spinal surgery and instrumentation, stereotactic neurosurgery/radiosurgery, and movement disorder surgery. Dr. Zucker is a Diplomat of the American Board of Neurological Surgery.
Professor Walter Stummer MD PhD

Professor Stummer is the Chairman of Neurosurgery, Munster University Hospital. He is a world leader in the introduction and implementation of advanced fluorescence-based diagnostic methods in the operation microscope and microneurosurgery. He is the neurosurgeon who introduced the use of 5-ALA in the resection of high-grade gliomas, and has published extensively on the 5-ALA method, from applied laboratory research to the operation room.

Georg Widhalm, MD, PhD

Dr Widhalm is Assistant Professor Department of Neurosurgery Medical University Vienna, Austria. George is a clinical scientist/surgeon who is a leader in fluorescent guided surgery focusing upon biomarkers and disease detection. His dissertation work was pivotal in demonstrating the use of Gliolan for low grade Gliomas that are hiding anaplastic malignancies in 48% of the “nonmalignant” patients. This game changing observation affords the use of Gliolan in all patients in his hospital to assure maximal tumor removal as standard of care. His insight and expertise underlies his translational approach to novel tumor applications.