Corporate Overview

April 2021

NASDAQ: BIOC
www.biocept.com

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Forward-Looking Statements

This presentation contains, and any accompanying oral presentation would no doubt contain, forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995, regarding Biocept, Inc. and our business. Forward-looking statements include all statements that are not historical facts and generally can be identified by terms such as anticipates, believes, could, estimates, expects, intends, may, plans, potential, predicts, projects, should, will, would, or the negative of those terms and similar expressions.

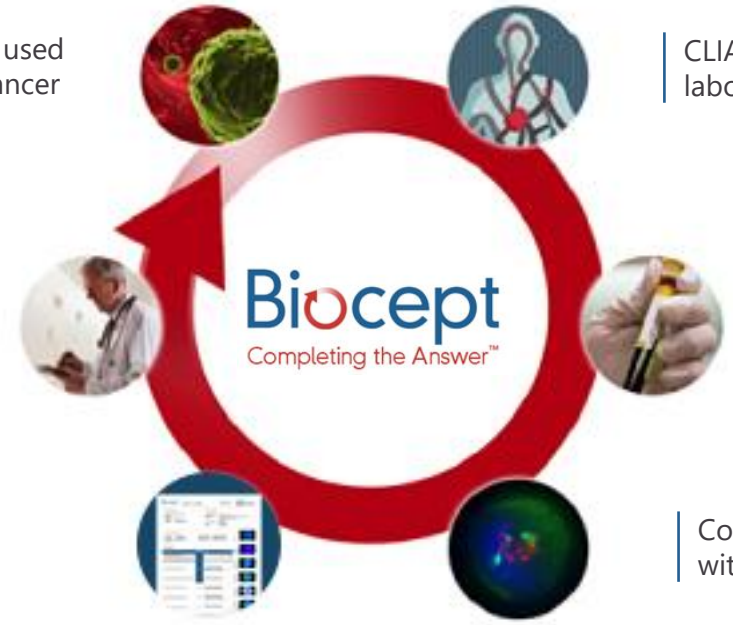
Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. For details about these risks, please see our SEC filings.

All forward-looking statements contained in this presentation speak only as of the date hereof, and except as required by law, we assume no obligation to update these forward-looking statements whether as a result of any new information, future events, changed circumstances or otherwise.

Corporate Profile

Patented technology used for liquid biopsy in cancer

CLIA – CAP-accredited laboratory located in San Diego



Providing actionable information to help physicians make treatment decisions

Target Selector™ products (kits and tubes) sold to labs worldwide

Unique benefit in neuro-oncology

Collaborations and partnerships with renowned institutions

COVID Strategy to assist in pandemic

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Corporate Highlights

Biocept is focused on *high unmet clinical needs*

- Patients with metastatic cancer involving the central nervous system (CNS)
- High volume, high service COVID-19 testing for skilled care facilities and institutions
- Distributed kits and products to serve other client laboratories and collaborators

Biocept is positioned in a *$17 billion* dollar market[1]

- Liquid biopsy for diagnosis, therapy decisions and monitoring in cancer for use by healthcare providers
- Focus on neuro-oncology and related areas estimated to be a $1B market
- Collaborations in place with leading academic institutions
- Strong balance sheet and growing revenue

Biocept has *unique technology* to inform clinical decisions

- Patented dual tumor cell and cell-free DNA testing platforms
- CLIA,CAP validated laboratory developed tests for testing both cerebrospinal fluid (CSF) and blood
- FDA Breakthrough Device Designation (BDD) Request to be submitted to in 1H 2021
- Following BDD, submit a De Novo Classification Request to support a Class II IVD
- Detected biomarkers are listed in NCCN guidelines
- Testing is performed in San Diego based CLIA and CAP laboratory

[1]Liquid Biopsy Market Research Report Global Forecast to 2022, Market Research Future

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Biocept COVID-19 Testing

300,000+ COVID-19 Samples Received for SARS-CoV-2 Testing since launch in June

- Average reimbursement of ~$100 per sample
- Diverse base of business in clinics, skilled nursing and colleges leads to repeat testing per client
- Fast turnaround times with vast majority of results reported in 48 Hours
- Biocept COVID test is performed with TaqPath™ RT-PCR EUA molecular diagnostic platform
- Testing performed in high-complexity, CLIA-certified and BSL-2 safety level lab by licensed molecular lab staff trained to perform COVID-19 testing

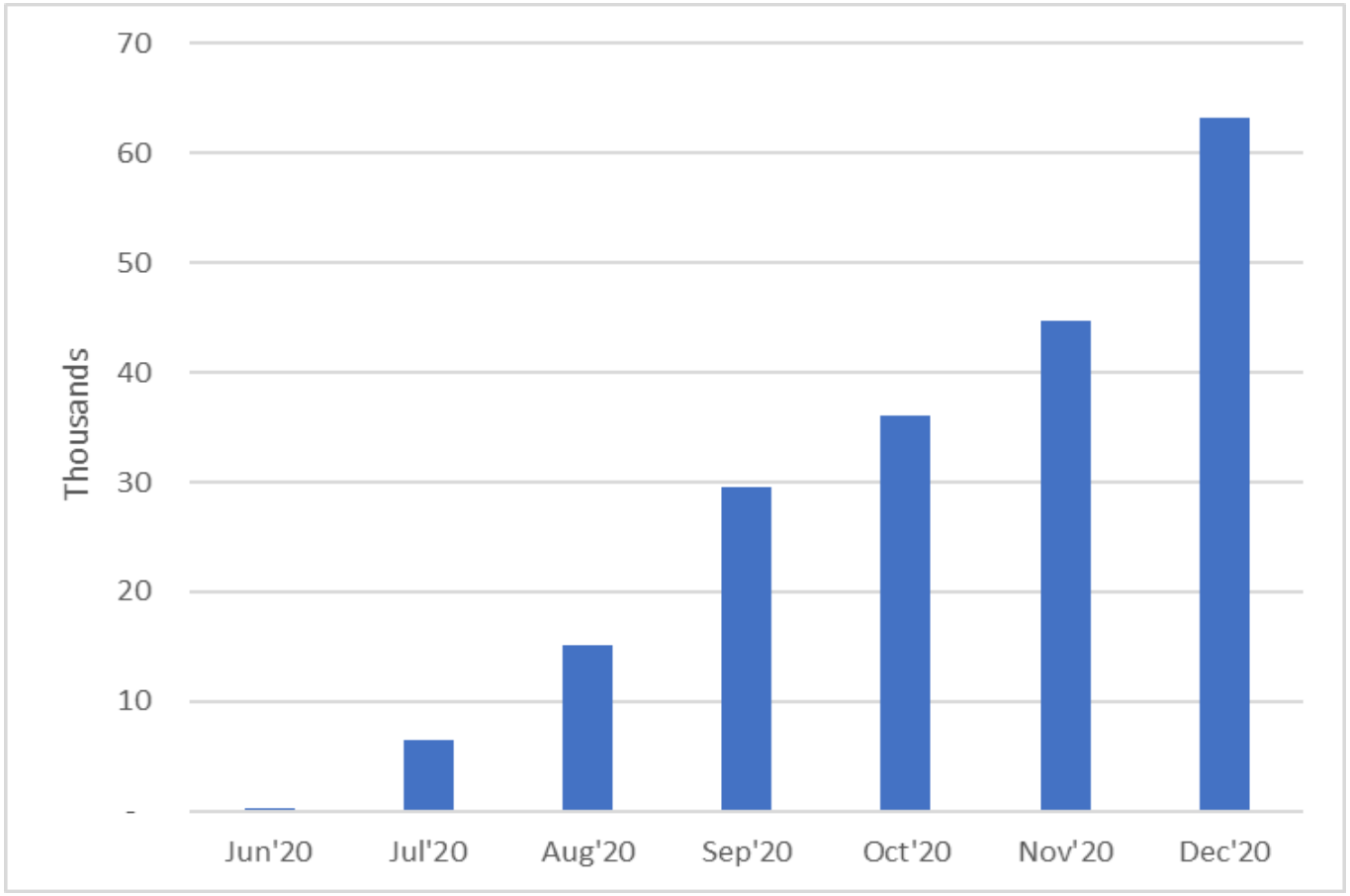
Collaboration with Aegea Biotechnologies to develop and commercialize Next Gen COVID-19 Assay

- Quantitative results – better for monitoring
- Discerns between COVID-19 strains
- Utilize patented Switch-Blocker technology

COVID-19 Volume Drives Revenue Growth

Samples Received by Month

300,000+ Total Samples Received through March 2021



- Medicare reimbursement: $100 per test
- COVID-19 volume drove increased capacity, automation and investment in additional molecular technologies
- Expands capabilities in core oncology business
- 2020 revenues totaled $27.5 million

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Core Strategy - Liquid Biopsy Market for Oncology

Estimated $17 billion market by 2023*

Today	Emerging	Future	Future
Diagnosis and Therapy Decisions In blood or CSF in lieu of tissue biopsy ▪ 700,000 Americans diagnosed with metastatic cancer** ▪ 200,000 with CNS involvement	**Therapy Response or Progression** ▪ Potential for 4-6 tests/year to monitor patients diagnosed and treated for metastatic cancer	**Recurrence** detection & monitoring ▪ >15 million cancer survivors in U.S.**	**Screening** And early diagnosis ▪ Millions of Americans at high risk of developing other cancers**

Biocept focuses on patients with advanced or metastatic cancers including those with CNS involvement

*International Liquid Biopsy Market Report, Market Research Future, August 18, 2018

**American Cancer Society: Cancer Treatment and Survivorship 2016-2017

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Biocept Advantage

Biocept's Proprietary Cell Capture System

- Allows for detection and monitoring of tumor cells in blood and cerebrospinal fluid
- Clear construction allows for protein and gene detection
- Flexible platform validated for multiple tumor types
- Chemistry plus capture device

Biocept's High Sensitivity Molecular Testing Offerings

- Sensitivity as low as .05%
- Clinically actionable genes
- Performed via qPCR or NGS
- Available as RUO products or CE-IVD kits for use in external labs

Subspecialty Focus on Neuro-Oncology (cancer involving the Central Nervous System or CNS)

- Area of high unmet clinical need; limited diagnostic tests available to assess CNS involvement by cancer
- Strong KOL engagement and growing participation in both commercial cases and clinical studies
- Goal to get testing into NCCN guidelines and become standard of care
- Biocept evaluates CNS involvement and tests for clinically actionable biomarkers
- Provides results for patient management and therapy decisions for use by healthcare providers

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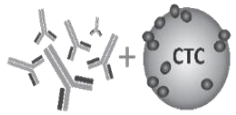
Biocept Proprietary Technology and Workflow

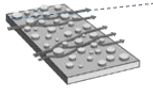
Tumor Cell Detection

cfDNA or cfRNA Detection

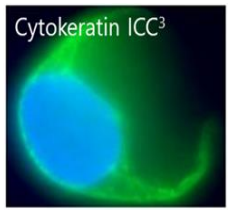
Patented Antibody Cocktail for CTC Isolation*

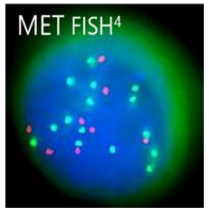


Patented Microfluidic Channel



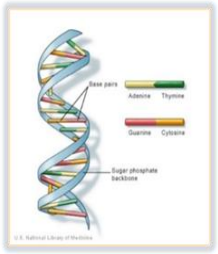
Immunocytochemistry and FISH





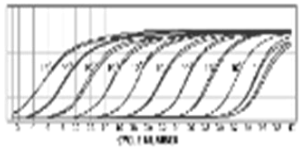
Patented CEE-Sure™ collection tube for ambient shipping up to 4 days

Cell-free DNA isolation

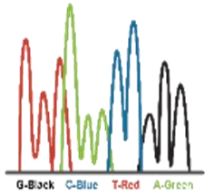


Patented Sensitivity Enhancing Switch Blocker ™ Technology*

qPCR Mutation Detection



Mutation Sequence Verification



Actionable Oncomine NGS panels

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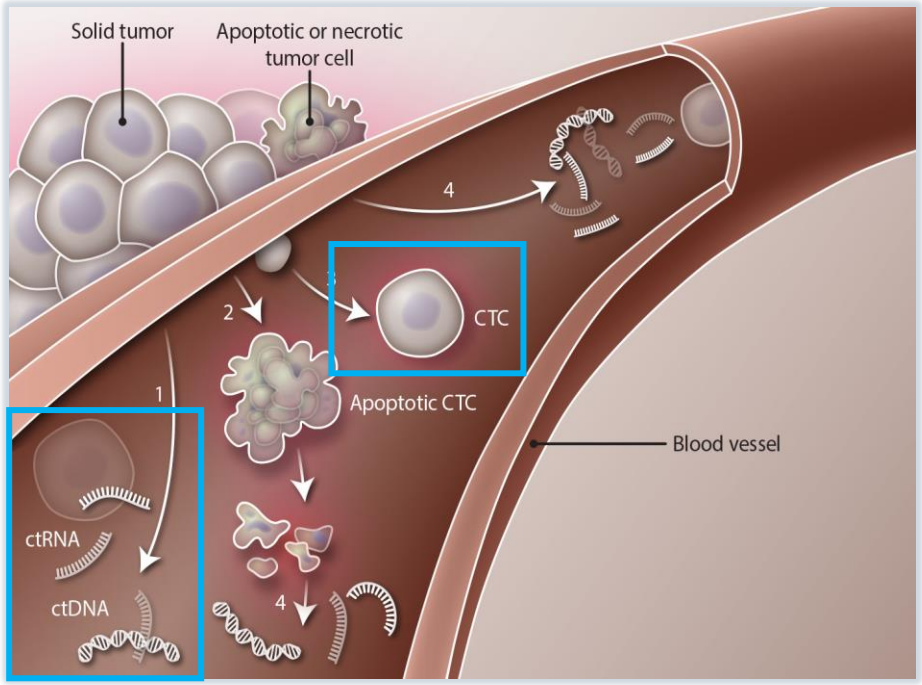
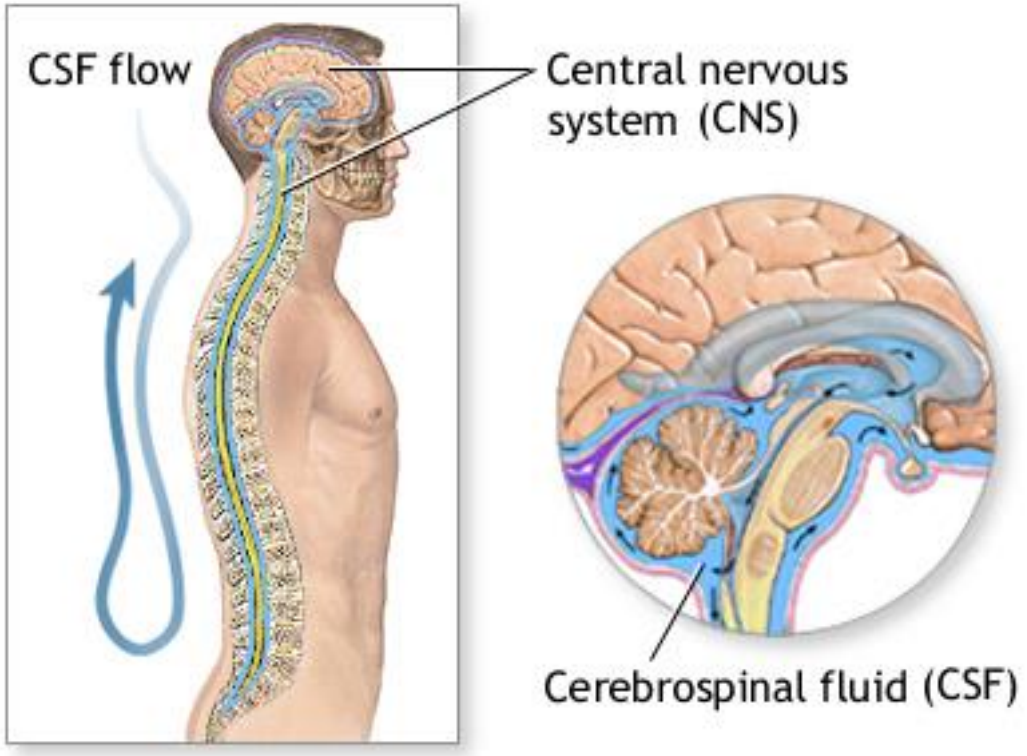
Biocept Identifies Targets - From Blood or CSF

- **CTCs** are whole cells containing intact genomic material shed from tumors including DNA, RNA and protein
- **ctDNA and ctRNA** is fragmented DNA or RNA shed into the **blood** and **CSF** as cells die
- ***Biocept analyzes CTCs, ctDNA and ctRNA for diagnosis and biomarker status***





Credit: H. McDonald / Science Translational Medicine

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Biocept Answers Questions Required for Optimal Treatment

1. **Is there tumor?**

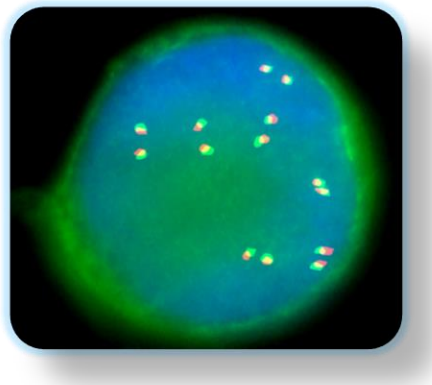
   Biocept detects cancer cells in CSF with a sensitive, quantitative method vs. qualitative CSF cytology

2. **Is there a target to inform a treatment decision?**

   If tumor is found, Target Selector™ can identify actionable genomic targets that inform clinical decision making

3. **Is there a trend?**

   Quantitative Monitoring for CSF tumor cells can indicate response or progression



Target Selector™ was developed according to requirements of CLIA and CAP

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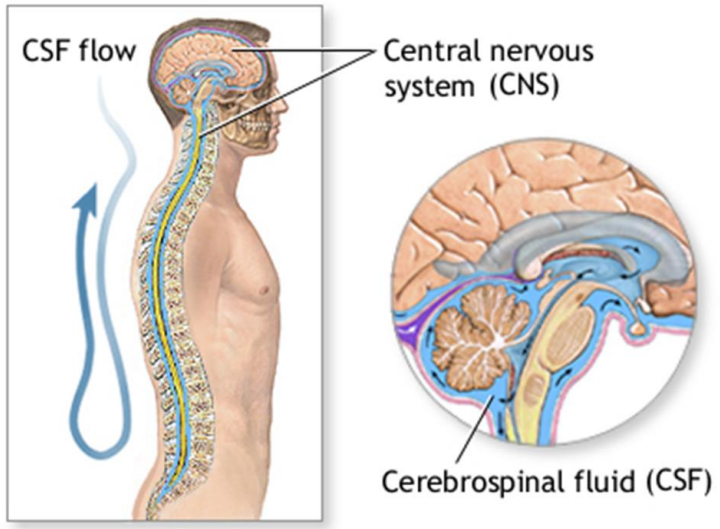
The First Liquid Biopsy Intended for Diagnosis of CNS Involvement

Meets High Unmet Clinical Need

- 10-30% of cancer patients develop CNS involvement – over 200,000/year
- Avoids repeated lumbar punctures and surgical biopsies



Leverages Biocept's Core Technology

- Cell capture and molecular characterization of tumor cells in CSF
- Guides therapy decisions with detection of tumor cells and biomarkers
- Quantitative cell count, qPCR and NGS used to gauge therapy response

Potential to Improve Upon Existing Standard of Care

- Early data from feasibility studies suggest Biocept is superior to standard of care – cytology1
- Cytology can require up to 3x for LMD diagnosis in NCCN guidelines currently
- Cytology is not quantitative and is not adequate for therapy monitoring

[1]Berz et al, Poster, IASLC, 2020 Berz

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Today, Diagnosis and Monitoring of Cancer Involved in the CNS is Inadequate

Current clinical standard of care to determine CNS involvement

- Clinical signs and symptoms
- Radiologic imaging (CT/MRI)
- CSF cytology (microscopic evaluation of CSF by pathologist)

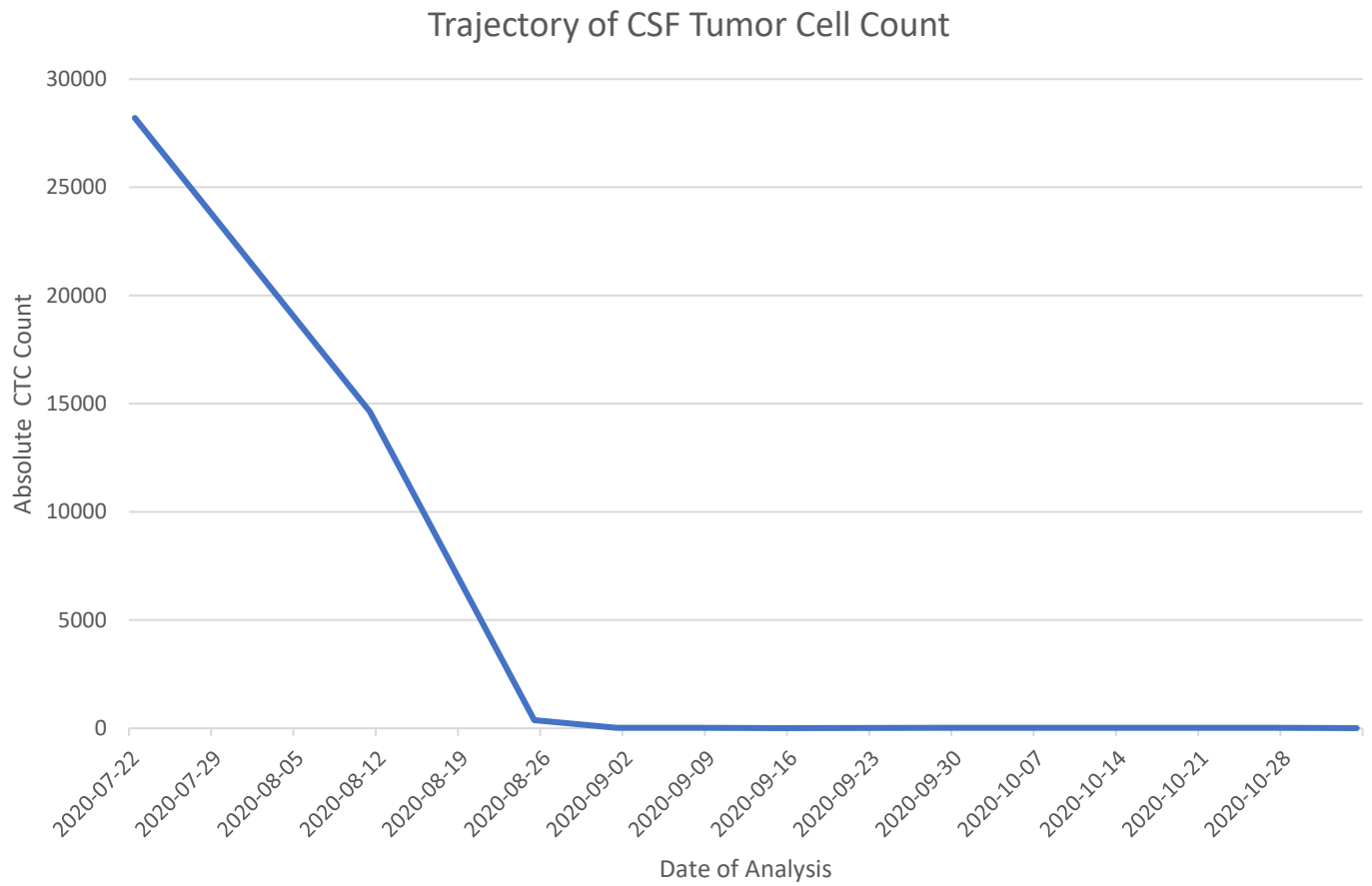
Here is where Biocept is being ordered

Cytologic evaluation alone of CSF is not optimal for diagnosis or treatment monitoring

- Often indecisively reported as “few atypical cells or pauci-cellular sample, inadequate. for dx, etc.)
- Established performance is sub-optimal and is unreliable for supporting treatment decisions
- NCCN guidelines reflect need to attempt cytology three times
- Qualitative result only (yes/no/maybe); inadequate for therapy monitoring

Case Study: Patient with Metastatic Breast Cancer Spread to Brain

- Woman in 40s, history of **breast cancer, now with neurologic symptoms** and imaging c/w LMD
- Systemic treatment started in July
- Monitored with Biocept tests
- Continues to exhibit response to treatment



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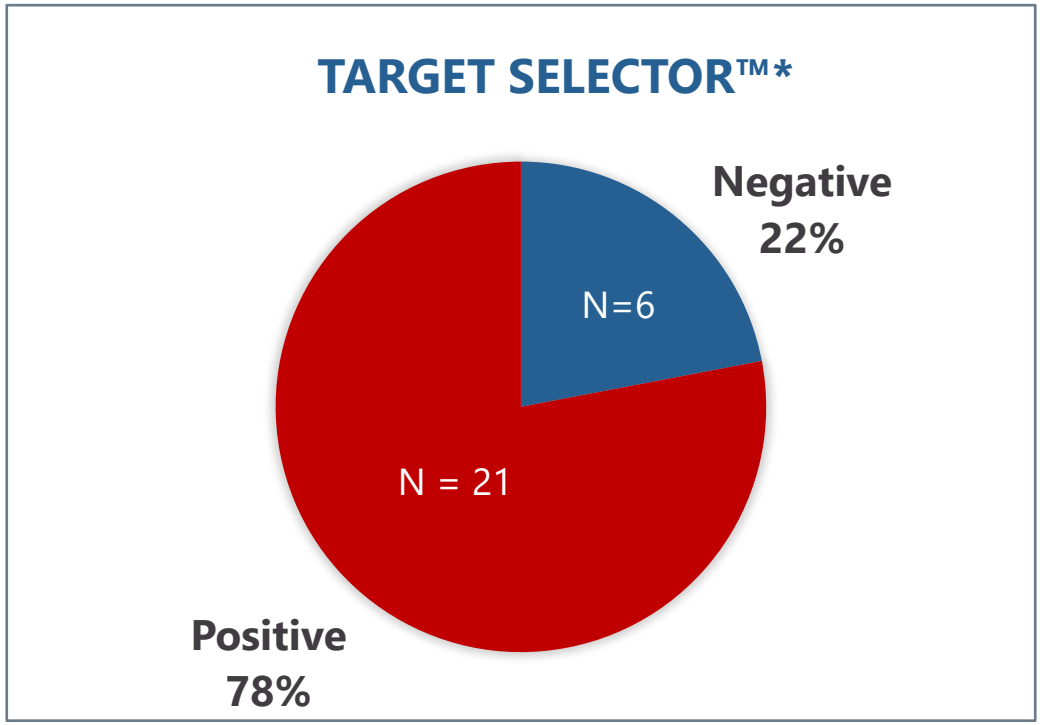
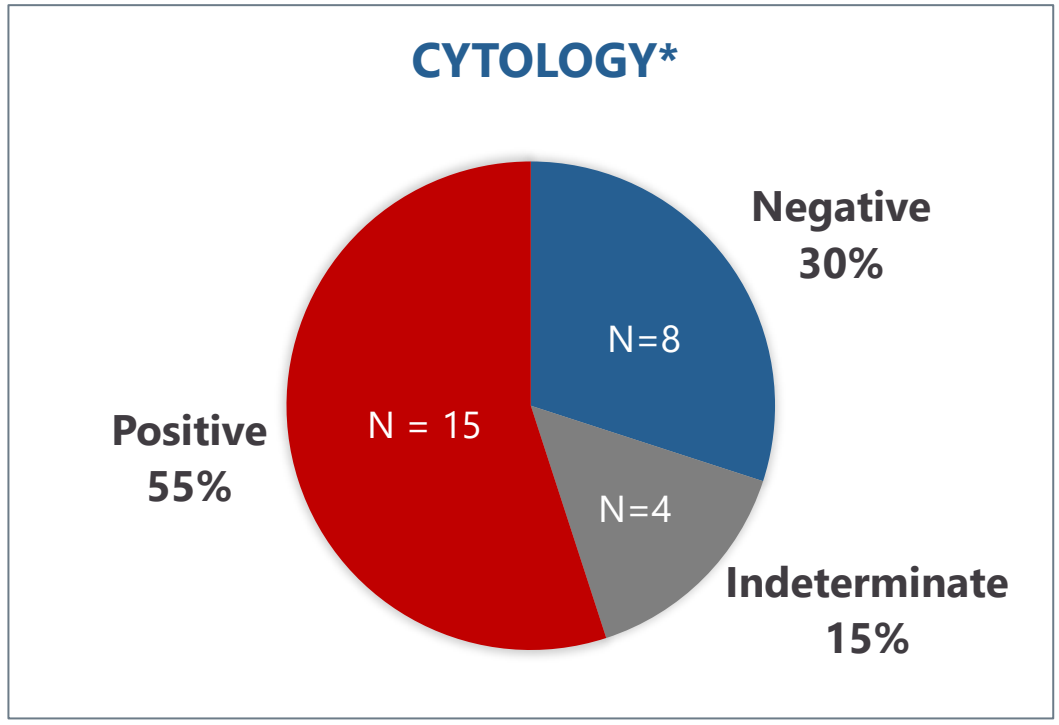
Biocept Quantitative Tumor Cell Detection Compared to CSF Cytology

Tumor cell counts detected with Biocept are much higher and feasibility data suggests the Biocept test is more sensitive than cytology





*Source: Berz et al, Poster, IASLC, 2020

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The Four C Study (Registry Trial)

Four C Study

Registry Study – **C**SF-**C**TCs/**c**tDNA vs **C**linical Standard of care (Cytology, Imaging, Clinical Evaluation)

- Design: Non-interventional trial evaluating performance of Target Selector™ compared to Clinical Imaging, Cytology, Clinical Evaluation in patients with suspected LMD in various indications
- Sponsor: Biocept
- Objective: Compare Target Selector™ with Cytology in predicting clinical outcome
- Indications: Non-Small Cell Lung Cancer, Breast Cancer, Melanoma, Lymphoma
- Type of study: Registry study to support clinical utility
- N= 200
- Projected start: Q2 2021
- Duration: 18 months

Our goal…clinical adoption to become standard of care in NCCN guidelines

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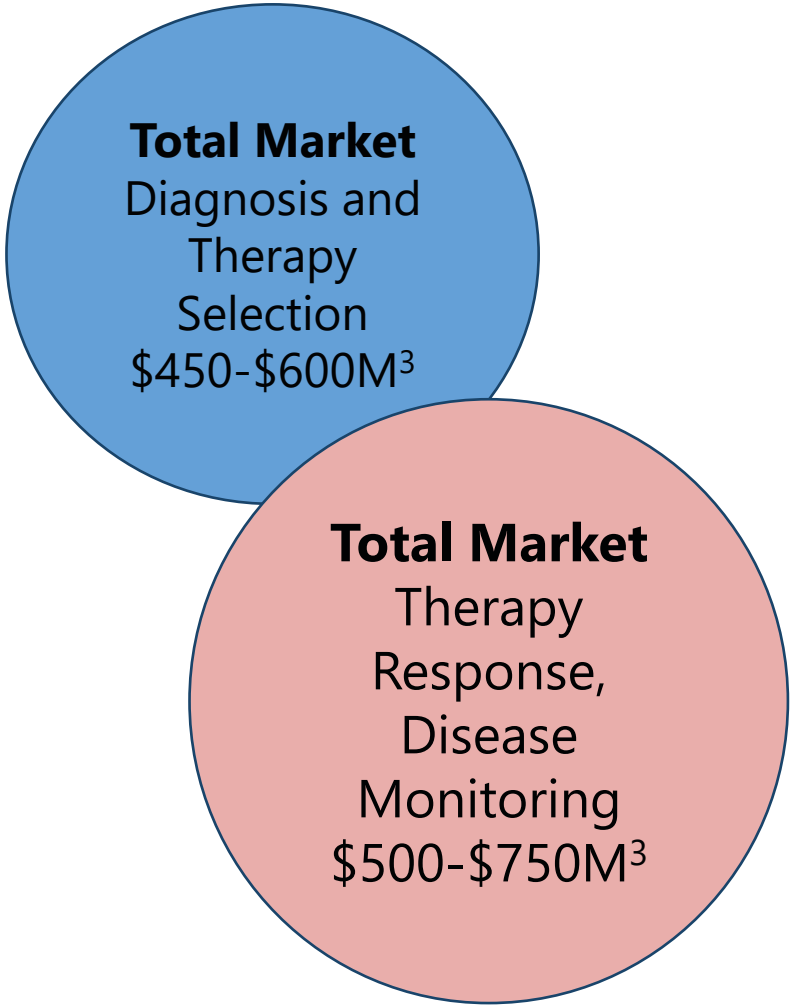
Diagnosis & Monitoring of CNS is >$1B Market Opportunity

- **Large Unmet Need**
  - 150,000 – 200,000 brain metastases annually[1]
  - Top two cancers in LMD are lung (50%) and breast (15%)[2]
- **Target Market**
  - Neuro-oncologists: early adopters (380)
  - Medical Oncologists (>12,000)
  - Blood and CSF orders from same client base
- **Goal to Gain High Value Reimbursement >$3,000 per assay**
  - Currently receive approx. $1700 per specimen
  - Monitoring estimate > 2.5 tests for 50% of patients



[1]https://training.seer.cancer.gov/brain/tumors/
[2]ASuh JH, Kotecha R et al., Nat Rev Clin Oncol 2019
[3]Based on annual brain metastases and Biocept's estimates on test volumes and price per test

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Neuro-Oncology Strategy to Become Standard of Care

Engage Key Opinion Leaders

- Steering committee established and being expanded with KOLs from leading institutions such as Northwestern, JWCI, Stanford, Penn State, Mayo and others

Establish Clinical Validity for Multiple Indications

- Generate data to support the accurate and reliable detection of tumor cells in CSF for LMD diagnosis as compared to cytology (standard of care) to support marketing authorization as a Class II IVD
- Be a strategic diagnostic partner in Pharma-sponsored, multi-center, neuro-oncology clinical trials to generate data to support predictive and therapeutic monitoring claims for Class II and III IVD products

Establish Clinical Utility

- Registry study data to demonstrate improved patient health outcomes to support adoption and reimbursement

Grow market share

- Branded test for CSF tumor cell detection and quantification with registered trademark
- Sales focused on expanding neuro-oncology market then broader oncology market
- Expand menu to other tumor types and primary brain tumors

Develop New Standard of Care

- FDA Breakthrough Device Designation (BDD) Request to be submitted to in 1H 2021
- Following BDD, submit a De Novo Classification Request with clinical validation data to support a Class II IVD
- Publish multi-institutional data derived from observational clinical studies and support more IVD claims
- Gain adoption in NCCN guidelines by 2023 for LMD diagnosis and therapy response monitoring

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FDA Breakthrough Device Status – Submission in 1H 2021

- Provides patients and health care providers with timely access to breakthrough medical devices by accelerating their development
- Offers diagnostic companies the opportunity to interact with FDA's experts to efficiently address analytical and clinical validation requirements during the review phase to ensure product approvals are not delayed
- Priority review of De Novo, 510(k) and PMA submissions resulting in faster FDA approvals
- Upon FDA approval, automatic reimbursement for the breakthrough device for 4 years through CMS Medicare Coverage of Innovative Technology pathway

- **Creates additional value for Biocept**
  - Designated an innovative diagnostic technology
  - Incentivizes Pharma partnerships to use the innovative technology
  - Potential for high value reimbursement for four years following FDA approval of device

Health Plan Access Continues to Expand with Third-Party Contracts

- Managed Care agreements in place covering >200 million lives
- Dedicated managed care leadership with years of experience from GE, LabCorp and others
- Payors have positive coverage for biomarkers listed in guidelines
- Aligns with goals of healthcare reform
- Improved outcomes while reducing costs
- Utilize established CPT codes
- Expecting reimbursement for NGS panels developed with Thermo Fisher in Q2 2021

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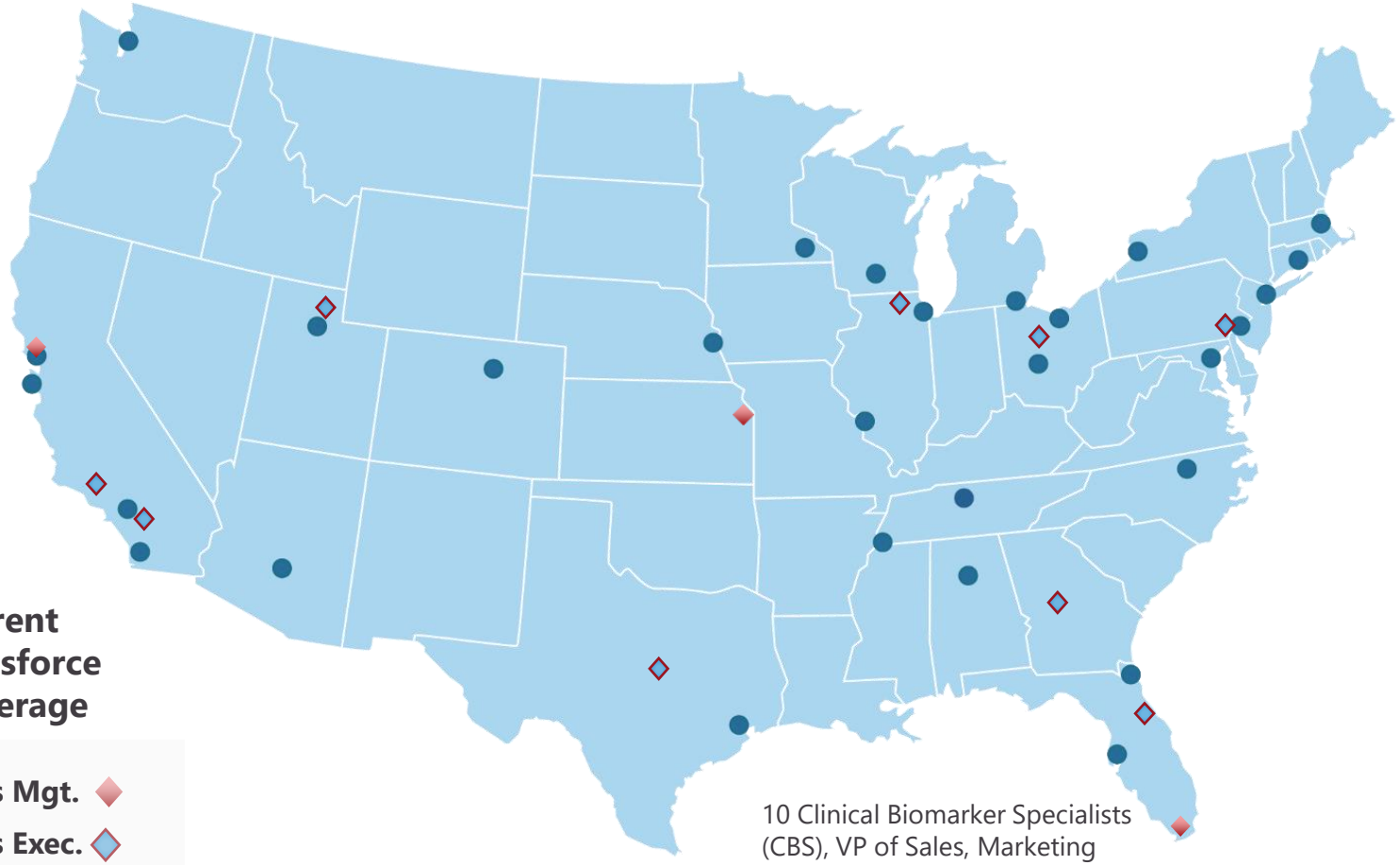
Commercial Strategy



Current Salesforce Coverage

- Sales Mgt.
- Sales Exec.
- NCCN Center

10 Clinical Biomarker Specialists (CBS), VP of Sales, Marketing Leadership and Reimbursement Experience

Over **2 dozen** leading cancer centers ordering Neuro-oncology testing from Biocept

Commercial Team

- Oncology Experienced
- Neuro-oncology Focus
- Deep Market Knowledge
  - National Accounts
  - Market Access

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Commercial Collaborations

- Executing on strategy to contract with major cancer treatment institutions, GPOs, and distributors
- Increasing patient access
- Accelerating adoption of liquid biopsy
- Leveraging sales and marketing resources by increasing awareness of Biocept's liquid biopsy platform within large health systems
- Roll out new tests and service offerings including molecular pathology partnering model (i.e., Empower TC™)
- Gaining value from data

Biocept IP Portfolio – 70 Patents Issued Worldwide

Family 1 MicroChannel for CTC Capture ▪ Recovery of Rare Cells using Microchannel ▪ Device for Cell Separation & Analysis	**1) Issued in US (2), China (3), Germany, Spain, France, Great Britain, Hong Kong (2), Italy, Japan, Korea** ▪ Pending in Australia **2) Issued in US**	Expire 2025-2027
Family 2 CTC Capture With Antibody Cocktail ▪ Subfamily 1 – Devices & Methods of Cell Capture Analysis ▪ Subfamily 2 – Method and Reagents for Signal Amplification	**1) Issued in US (3), Australia (2), Belgium, Canada, China, Switzerland, Germany (2), Spain, France (2), Great Britain (2), Hong Kong, Ireland, Italy (2), Japan (4)** **2) Issued in US, Belgium, Canada, China, Germany, France, Great Britain, Hong Kong, Ireland, Italy, Japan**	Expire 2030-2032
Family 3 Collection Tube ▪ Use of DU for Anti-Clumping of Biological Sample	**1) Issued in US**	Expire 2031
Family 4 Switch-Blockers for ctDNA Analysis ▪ Methods for Detecting Nucleic Acid Sequence Variants Primer-Switch for Nucleic Acid Analysis ▪ Divisional – Methods for Rare Genetic Variant Detection and PCR Amplification Improvements	**1) Issued in US, Australia (2), Belgium, Brazil, China, Canada, Germany, France, Great Britain, Hong Kong, Ireland, Italy, Japan (2), Korea** **2) Issued in Australia and US** ▪ Pending in Japan, China, Korea, Canada, Hong Kong,, Brazil, and EU	Expire 2031

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Leadership Team

Michael Nall
President & CEO

- 25+ years in healthcare sales, marketing and commercial operations
- 20+ years in cancer diagnostics and genomics
- 7 years as Biocept CEO
- Most recently General Manager N. American Sales and Marketing for Clarient — a GE Healthcare Company

Tim Kennedy
COO & CFO

- 30+ years of financial experience, 25+ years in the clinical diagnostics industry
- Instrumental in 2.1B restructuring of Millennium Health, a privately-held urine drug lab
- Numerous senior management positions – helped transform PLUS Diagnostics into largest independent U.S pathology lab; merged National Health Labs and Roche Biomedical Labs to form LabCorp

Michael Dugan, MD
CMO and
Medical Director

- Board certified Pathologist
- Univ of AZ, Yale, UCLA
- Numerous publications, serves on CAP committees
- Leadership positions at Exact Sciences, Clinical Genomics, Quest, Genzyme and others

Lyle Arnold, PhD
SVP, Chief Scientist

- Senior R&D leadership at Gen-Probe, Incyte Genomics, Genta
- Founder/ Co-founder Oasis Biosciences, Molecular Biosystems, Aegea Biotechnologies
- Former faculty member, UCSD School of Medicine and member, UCSD Cancer Center
- 47 issued US and more than 140 issued and pending patents worldwide

Michael Terry
SVP, Corporate
Development

- 25+ years commercial leadership experience in molecular diagnostics and med-tech companies
- Former GE Healthcare executive, certified in Six Sigma
- Recent experience in liquid biopsy field; EVP commercial operations at both Sequenom and Trovagene

CLARIENT A GE Healthcare Company · GE Healthcare · trovagene · EXACT SCIENCES · LabCorp Laboratory Corporation of America · MILLENNIUM HEALTH · sequenom · Quest Diagnostics · genzyme · IncyteGenomics · GEN-PROBE · BIO THERANOSTICS

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Biocept is Guided by a Board of Visionaries & Scientific Influencers

Board of Directors

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Director, Member of Audit Committee

Marsha A. Chandler, PhD
Director, Chair of Nominating and Governance Committee

Michael W. Nall
Director, President & CEO

Samuel D. Riccitelli
Director

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David Berz, MD, PhD
Beverly Hills Cancer Center
Chief Medical Officer – Valkyrie Pharmaceuticals
Beverly Hills, California

Priya Kumthekar, MD
Associate Professor of Neurology (Neuro Oncology) and Medicine (Hematology and Oncology)
Northwestern Medicine
Feinberg School of Medicine
Chicago, IL

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Corporate Priorities

1. Position Biocept as standard of care for the diagnosis and monitoring for CNS involvement
2. Submit for FDA Breakthrough Device Designation
3. Establish Branded Product for tumor cell detection in CSF
4. Initiate clinical validity and utility studies leading to FDA IVD approvals & NCCN Guidelines
5. Secure Medicare coverage for Target Selector™ Lung NGS Panel
6. Grow sales of Target Selector™ liquid biopsy kits and CEE-Sure blood collection tubes
7. Enter into additional strategic commercial and technology partnerships -- USA and Global
8. Commercialize quantitative COVID-19 assay developed in collaboration with Aegea Biotechnologies