**BETTER TOGETHER**

Combining Myxoma OVs & Existing Immunotherapies

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**Deep Therapeutic Pipeline**

<table>
<thead>
<tr>
<th>Ov</th>
<th>Disease</th>
<th>Status</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM101</td>
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<td>AML</td>
<td>Discovery</td>
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</tbody>
</table>

**Experienced OV Team**

- **Oncology**
  - Ignyta, Pfizer, Novartis, Genentech, Bayer & Merck
- **Oncolytic Viruses**
  - Jennerex, Turnstone, SillaJen, CG Oncology & Onyx
- **Clinical & Commercial**
  - > 20 INDs
  - > 30 clinical trials
  - & multiple product launches

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**Best-in-Class Oncolytic Virus (OV) Platform**

- Multi-armed
- Systemic delivery
- Non-human virus
- Precision / targeted

Proprietary technology developed in McFadden’s lab

Myxoma Virus 130-280 kB
Top Team: proven biopharma leadership & OV therapeutic development expertise

**Leadership**

- **Michael Wood, MBA**
  Cofounder, CFO & COO

- **Leslie Sharp, PhD**
  CSO

- **James Burke, MD**
  Medical Advisor

- **Ursula Fritsch, PharmD**
  Regulatory Advisor

- **Georg Roth, PhD**
  CMC Advisor

- **Matt Fust, MBA**
  Finance Advisor

- **John Wallen, JD, PhD**
  IP Advisor

**Board of Directors**

- **Charles Baum, MD, PhD**
  OncoMyx Chair, Mirati CEO

- **Steven Potts, PhD, MBA**
  Cofounder & CEO

- **Kanad Das, PhD**
  Director, BIVF

- **Tim Xiao, CFA, FRM**
  Principal, Delos Capital

- **Jason Rushton**
  Partner, Xeraya Capital

- **Grant McFadden, PhD**
  Cofounder, Research Advisor & Professor

**SAB**

- **Grant McFadden, PhD**
  Cofounder, Research Advisor & Director

- **Tobias Bald, PhD**
  Oncology Head at QIMR Research

- **Neil Gibson, PhD**
  CSO COI; Ex-CSO Pfizer Oncology

- **Ronan O'Hagan, PhD**
  SVP, Akrevia; Ex-Exec Dir Merck Onc.

- **Dominic Spinella, PhD**
  Ex-VP Research at Chugai
Better Together: current immunotherapies benefit only 13%\(^1\) of cancer patients & combining with OV\(\rangle\)s has significantly increased response rates\(^2\).

**Response Rates of Current Immunotherapy**

- **Lung**: 10-20%\(^3\)
- **Colorectal**: 4%\(^4\)

IO in CRC mostly limited to a small subset of MSI-H patients.

**Oncolytic Viruses + Immunotherapy**

Oncolytic viruses can increase immunotherapy response rates.

<table>
<thead>
<tr>
<th>Tumor</th>
<th>Combination</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melanoma (2016)</td>
<td>T-Vec (herpes) + ipilimumab</td>
<td>18% → 39% Response Rate</td>
</tr>
<tr>
<td>Melanoma (2017)</td>
<td>T-Vec (herpes) + pembrolizumab</td>
<td>88% Response Rate</td>
</tr>
<tr>
<td>Sarcoma (2020)</td>
<td>T-Vec (herpes) + pembrolizumab</td>
<td>35% Response Rate</td>
</tr>
<tr>
<td>Basket Trial (2021)</td>
<td>T-Vec (herpes) + pembrolizumab</td>
<td>Ongoing Phase 3</td>
</tr>
</tbody>
</table>

\(^1\)Halsam & Prasad, 2019 JAMA.  \(^2\)Shi et al, 2020 Front Immunol. \(^3\)Herbst & Doroshow, 2019 JAMA Oncology.  \(^4\)Le et al, 2017 Science
Myxoma has **immunostimulatory & safety advantages** over vaccinia as systemic OV

- Myxoma and vaccinia are the two leading multi-armable oncolytic poxviruses.
- Myxoma is not pathogenic to humans and may be able to be safely delivered systemically at higher doses & over a longer dosing period than vaccinia.
- Myxoma is immunostimulatory in human dendritic cells while vaccinia is immunosuppressive in the same cells.

**Greater immunostimulatory MOA**


Vaccinia and Myxoma, both armed with IL-15, will infect glioma cells in vivo. But myxoma only transiently infected ependymal cells and was safe even when injected directly into the lateral cerebral ventricles, while vaccinia lysed these cells and caused weight loss and death in mouse studies.

Tang, et al Oncolytic Virother, 2019
Best-in-Class Platform: at a time when pharma has high interest in OVs, we have the best platform

**OncoMyx’s MYXV Platform**

- **Multi-armed**
  - 2-5+ genes can be engineered into MYXV to optimize IO response
- **Systemic delivery**
  - Via IV or proprietary ex vivo virotherapy (EV2)
- **Non-human pathogen**
  - No pre-existing immunity; longer dosing window, easier handling, and safety
- **Precision / targeted oncology**
  - Unique patient-matched biomarker programs

**Why is MYXV Best-in-Class?**

- Multi-arming is the recent OV trend, & our transgene capacity & expression appear superior
- IV dosing is the OV “Holy Grail”, & our IV data enables us to lead with IV programs vs. IT only (Replimune, $1.8B market cap in Phase 2)
- We believe a non-human pathogen maximizes the IV dosing window, & our team is uniquely qualified to develop the 1st targeted OV Txs

**Platform Comparison**

<table>
<thead>
<tr>
<th>OncoMyx</th>
<th>Myxoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amgen</td>
<td>Herpes</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>NDV</td>
</tr>
<tr>
<td>KaliVir/WO</td>
<td>Vaccinia</td>
</tr>
<tr>
<td>Oncorus</td>
<td>Herpes</td>
</tr>
<tr>
<td>Oncorus</td>
<td>Synthetic</td>
</tr>
<tr>
<td>PsiOxus</td>
<td>Adenovirus</td>
</tr>
<tr>
<td>Replimune</td>
<td>Herpes</td>
</tr>
<tr>
<td>Turnstone</td>
<td>Maraba</td>
</tr>
<tr>
<td>Turnstone</td>
<td>Vaccinia</td>
</tr>
<tr>
<td>Vyriad</td>
<td>VSV</td>
</tr>
</tbody>
</table>

**Acquisitions and Deals**

- **2011**
  - Acq. Biovex 2011 (herpes)
  - Amgen T-Vec Approved (herpes)
  - Pfizer Deal Western Oncolytics (vaccinia)
  - AstraZeneca Deal Omnis (VSV)

- **2015**
  - AstraZeneca Deal Turstone (maraba)
  - $ Oncorus (herpes)

- **2016**
  - Bristol Myers Squibb Deal PsiOxus (adenovirus)
  - Boehringer Ingelhein Acq. ViraTherapeutics (VSV-GP)

- **2017**
  - Abbvie Acq. BeneVir (herpes)

- **2018**
  - Merck Acq. Viralytics (coxsackievirus)
  - Janssen Acq. BeneVir (herpes)

- **2019**
  - Repugen Acq. BeneVir (herpes)

- **2020**
  - Regeneron Deal Vyriad (VSV)

**Non-Confidential**

**Targeted Oncology: the only OV company experienced in precision medicine**

Targeted therapies appropriate for 0.5-2% of tumors\(^1\)

<table>
<thead>
<tr>
<th>Company</th>
<th>Therapy(s)</th>
<th>Value</th>
<th>Year</th>
<th>Mechanism</th>
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<tr>
<td>Ignyta</td>
<td>ROS1, TRK (Phase 2)</td>
<td>$1.7B</td>
<td>Dec 2017</td>
<td></td>
</tr>
<tr>
<td>Loxo Oncology</td>
<td>RET, TRK (Phase 2)</td>
<td>$8.0B</td>
<td>Jan 2019</td>
<td></td>
</tr>
<tr>
<td>Array Biopharma</td>
<td>BRAF (Marketed)</td>
<td>$11.4B</td>
<td>Jun 2019</td>
<td></td>
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<tr>
<td>Blueprint</td>
<td>RET (Marketed)</td>
<td>$5.8B</td>
<td>Market Cap</td>
<td></td>
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<tr>
<td>Mirati Therapeutics</td>
<td>KRAS (Phase 3)</td>
<td>$11.1B</td>
<td>Market Cap</td>
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**OncoMyx**

MYXV Platform Tropism
Viral backbone tropism for a cancer subset

**Armings**
Transgenes to target certain tumor types/mutations

\(^1\)Cutler, 2020. JAMA Forum

Non-Confidential

7
## Deep Therapeutic Pipeline: precision medicine across solid & hematological cancers

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Multi-Arming: targeting multiple, complementary points of cancer immunity cycle

**T and NK cells**
Enhancement of recruitment and function

**Microenvironment modulation**
Increase inflammatory signals for recruitment, decrease immunosuppressive environment, and normalize vasculature

**Dendritic cells**
Increasing trafficking and antigen presentation

**T cell activity**
Enhancement through combination with approved immune checkpoint Inhibitors (PD-1/L1, CTLA-4)
Multi-Armed Myxoma Demonstrates Robust Replication and Payload Production

**Replication**

<table>
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<tr>
<th>MOI 0.1 ratio virus / cell</th>
<th>MYXV-GFP</th>
<th>2 transgenes</th>
<th>3 transgenes</th>
<th>5 transgenes</th>
<th>6 transgenes</th>
</tr>
</thead>
</table>

Similar replication of viral constructs containing multiple transgenes

**Transgene Production**

Transgene Expression

- mock
- MYXV-GFP
- hTriple

Multi-armed myxoma virus produces multiple transgenic proteins

**Transgene Function**

Arming1 responsive cytotoxicity assay

- Arming1
- Arming2
- Arming3

Arming proteins produced by multi-armed myxoma virus are functionally active
Multi-Armed Myxoma Is Cytotoxic to Multiple Human Cancer Cell Lines Across Multiple Disease Types

Multi-Tumor Panel

- Armed myxoma virus is oncolytic across a variety of human tumor cell lines

Lung Cancer Lines

- Armed myxoma virus is cytotoxic to many human lung cancer cell lines

Sarcoma Cell Lines

- Armed myxoma virus is cytotoxic to many human sarcoma cell lines
Multi-armings of our program candidates demonstrate complementary efficacy

B16-F10 model

Individual Animal Data

All viruses dosed at $2 \times 10^7$ FFU/dose IT on Day 1 and Day 8
Multi-armed myxoma virus induces anti-tumor changes in tumor infiltrating lymphocyte populations

**Efficacy**

- Tumor Volume (mm$^3$)
- Study Day

**CD8/Treg**

- CD8+ Treg Ratio (%Live)
- Vehicle
- MYXV-GFP
- mSingle
- mDouble
- mTriple

**M1/M2 Macrophage**

- M1/M2 ratio (%F4/80)
- Vehicle
- MYXV-GFP
- mSingle
- mDouble
- mTriple

*All viruses dosed at 2x10$^7$ FFU/dose IT on Day 1*

*p<0.05  
**p<0.01
Triple-armed candidate tumor growth inhibition & survival w/ and w/o checkpoint inhibitors

All viruses dosed at 2x10^7 FFU/dose IT Q4Dx4, αPD-1 dosed at 10 mg/kg IP Q4Dx4

*p<0.05

MC38 model

Efficacy

Survival

Rechallenge
Multi-armed virus is efficacious following IV dosing in subcutaneous syngeneic tumor models

![Graphs showing tumor volume over study day for B16-F10 and CT26 models.](image)

- **B16-F10**
  - Vehicle (IV)
  - mTriple 2e7 FFU IV Q4Dx4
  - mTriple 2e7 FFU IT Q4Dx4

- **CT26**
  - Vehicle (IT)
  - mTriple 1e8 FFU IV Q4Dx4
  - mTriple 2e7 FFU IT Q4Dx4

*p<0.05*
Triple-armed candidate demonstrates IV efficacy in disseminated models w/ immune checkpoint inhibitors (ICI)

K7M2-Luc with IV Delivery

B16-F10-Luc with IV Delivery

All viruses dosed at 2x10^7 FFU/dose IV Q4Dx4, αPD-1/αPD-L1 dosed at 10 mg/kg IP Q4Dx4
Myxoma retains efficacy after four dose regimens and neutralizing anti-myxoma antibody generation isn’t increased by multi-arming.

Efficacy maintained after four doses

ADA not affected by multi-arming

Counts Relative to Mock

EMT-6 model dosed IT 2e7FFU/dose Q4Dx4
Focused Execution: Series A accomplishments & ongoing / planned activities

**Series A Accomplishments**

- Growth & oncolytic equivalence of multi-armed viruses
- Expression in dose/time responsive manner & biological function of multiple transgenes
- Preliminary oncolytic screening across multiple indications
- In vivo IV efficacy of multi-armed viruses as single agent & in combination with ICIs in multiple models
- Process/analytical development in-process, viable yields achieved, GMP slot reserved, preparing to upscale
- Established & engaged with SAB

**Ongoing & Planned Activities**

- Selection of first development candidate (DC, 1Q 2021)
- Optimization of dose, schedule, PK, and biofunctional assays
- In vitro screening for clinical indication & patient selection biomarkers
- Demonstration of in vivo modulation of mechanism of action biomarkers
- DC plaque purification, master virus seed, engineering run & GMP manufacturing
- Pre-IND meeting (mid-2021)
- File first IND (Q4 2022)
CMC & GMP manufacturing programs on track

CMC Accomplishments

- Locked in CMO manufacturer that can scale through commercial phases. Strong experience in virus and vaccine manufacturing.
- Working with serum-free cell line that has been used in commercial vaccines.
- Utilizing scalable manufacturing process and have generated adequate yields for up-scaling.
- Reproduced growth curves at CMO with commercial cell line with penta-armed virus.
- Plaque picking two DC viruses and one backup virus.
- Analytic measurement approaches transferred to CMO for major transgenes.

On going & Planned Work

- DC plaque purification, master virus seed, engineering run & GMP manufacturing

MOI 0.1 ratio virus / cell

Myxoma is a robust agent for scalable multi-arming. We have demonstrated equivalent growth curves for 6 transgenes in-house at OncoMyx, and regularly use a 5 transgene model virus for external CMO activities.
Lead program clinical opportunities

Four Potential Areas of Clinical Opportunity

IO Sensitive Indications
Increase response in responders

Post IO Indications / Secondary Resistant
Re-sensitize tumors to IO

IO Resistant Tumors
Make cold tumors sensitive to IO

Niche Indications
Rapid path to approval

2021
Pre-IND Meeting
Preclinical GMP & IND-enabling tox

2022
Q4 IND
Phase 1a Dose Escalation
Dosing window, handling & safety 15-30 patients total

2023
Q3 P1a mono + combo data
Phase 1b/2 Dose Expansion
Target population at RP2D 60-105 patients total

2024
Seeking $50M+ Series B/crossover in Q2 2021 to IPO in Q4 & transition to clinical

**OM101**
- **Preclinical**
  - Pre-IND Meeting
  - GMP & IND-enabling tox

**OM102**
- **Lead Optimization**

**OM201**
- **Lead Optimization**

**MYXV Platform Discovery Engine For Additional Pipeline Programs**

**Use of $50M Series B proceeds (through end of 2023):**
- $25M to advance OM101 into Phase 1/2
- $10M to advance OM102 to 1st patient dosed
- $10M to advance additional programs & fund discovery engine
- $5M for G&A

Positions/resources the company for IPO in Q4 2021 with deep therapeutic pipeline, partnering optionality & news flow
Cancer Pharma Pipeline Gap: all cancer pharmas may soon seek a multi-armed, systemic & targeted OV platform to improve existing immunotherapies

<table>
<thead>
<tr>
<th>Cancer Pharma</th>
<th>OV Platform</th>
<th>Challenges Ahead</th>
</tr>
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<tr>
<td>No Known Existing OV Platform (N=8+)</td>
<td></td>
<td></td>
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<table>
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<tr>
<th>OV Platform CANNOT Multi-Arm, NOT Systemic, NOR Targeted (N=5)</th>
</tr>
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<tbody>
<tr>
<td>abbiive</td>
</tr>
<tr>
<td>AstraZeneca</td>
</tr>
<tr>
<td>Boehringer Ingelheim</td>
</tr>
<tr>
<td>Merck</td>
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<td>Regeneron</td>
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<tr>
<th>OV Platform Able to Multi-Arm, but NOT Systemic, NOR Targeted (N=7)</th>
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<td><strong>Janssen</strong></td>
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<tr>
<td><strong>Sanofi</strong></td>
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</table>

**ALL 20+ cancer pharmas are prospects for an OncoMyyx strategic transaction**
Value Creation & Generating Optionality: we aim to build the company for the long-term & evaluate options along the way

**Series A**
- Today
- PARTNER

**Series B**
- PARTNER

**IPO**
- IND
- Phase 1b/2 Data
- PARTNER

**Follow-On**
- PARTNER

---

**Partnerships**
- turnstone.
  - (Preclinical)
- KIVI
  - (Preclinical)
- Inkedra
- astellas
  - $120M upfront ($1B total) 2019
  - $56M upfront ($634M total) 2020

---

**Recent Transactions for Oncolytic Viruses**

**Acquisitions**
- BioVex
  - (Phase 3) acquired by AMGEN in 2011
- VIRAlytics
  - (Phase 2) acquired by MERCK in 2018
- BeneVir
  - (Preclinical) acquired by JANSSEN in 2018
- ViraTherapeutics
  - (Preclinical) acquired by Boehringer Ingelheim in 2018
- n/a upfront

**IPOs**
- Oncorus
  - $750M Market Cap (Dosed 1st Patient)
  - IT ONLY Lead Program
- Replimune
  - $1.8B Market Cap (Phase 1/2)
  - IT ONLY Pipeline

---

**Select Leading Cancer Pharmas**
- Abbvie
- Astellas
- AstraZeneca
- Beigene
- Biogen
- Boehringer Ingelheim
- Gilead
- GSK
- Jazz Pharmaceuticals
- Lilly
- Merck
- Novartis
- Regeneron
- Sanofi

---
Next Steps

Seeking $50M+ series B/crossover in Q2 2021 to:

- Advance our deep therapeutic pipeline
- IPO in Q4 2021
- Transition OncoMyx into a clinical-stage organization & build the leading IV-delivered oncolytic immunotherapy biotech
Thank You