Revolutionizing CAR-T Therapy

JULY 2022

NASDAQ: KRBP
Kiromic.com
Forward Looking Statements

This presentation contains forward-looking statements that involve substantial risks and uncertainties. Kiromic makes such forward-looking statements pursuant to the safe harbor provisions of the United States Private Securities Litigation Reform Act, Section 21E of the Securities Exchange Act of 1934, as amended, and other federal securities laws. All statements other than statements of historical facts are forward-looking statements. In some cases, you can identify forward-looking statements by terms such as: “will,” “potential,” “could,” “can,” “believe,” “intends,” “continue,” “plans,” “expects,” “anticipates,” “estimates,” “may,” or the negative of these terms or other comparable terminology. These forward-looking statements include, but are not limited to, statements regarding: Kiromic’s current and anticipated IND applications including statements regarding the scope of and timing for submission of an IND application; the Deltacell™ product platform; the sponsored research agreement and the data that will be generated as a result of such collaboration; the timing for submitting and activating Kiromic’s IND applications; the benefits of utilizing non-genetically engineered Gamma Delta T cells as our first in-human study; Kiromic’s ability to achieve its objectives; and the timing for the initiation and successful completion of Kiromic’s clinical trials of its product candidates. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results, levels of activity, performance, or achievements to be materially different from the information expressed or implied expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, the risks and uncertainties discussed in our Annual Report on Form 10-K for the year ended December 31, 2021, and as detailed from time to time in our SEC filings. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance, or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. Such forward-looking statements relate only to events as of the date of this press release. We undertake no obligation to update any forward-looking statements except to the extent required by law.
Contents

- The Kiromatic Difference
- Diamond AI™ (Artificial Intelligence)
- Gamma Delta T-cell (GDT) Therapy: Mechanism of Action (MOA), Product Pipeline, cGMP Manufacturing
- Current Status and Path Forward
Kiromic BioPharma is the only cell therapy company combining AI-driven genetically edited Gamma Delta T-cells (GDT) with proprietary targeting technology to address solid malignancies.
Strategic Competitive Landscape

6 Known Companies (including Kiromic) in the Gamma Delta T Cell Therapy space.
No Known Competitors with AI-driven Technology Combined with a Gamma Delta CAR-T Delivery Platform.
Solid Malignancy Market Opportunity

Global CAR-T Cell Therapy Market by 2027¹ (USD)

$33+ Billion

90% of Cancers Are Solid Malignancies²

¹ Global CAR-T Cell Therapy Market, By Product Type, By Tumor Type, By Indication, By Treatment Type, By Targeted Antigen, By End User, By Region, Competition, Forecast and Opportunities, 2017-2027 (ReportLinker)
## Competitive Difference

### Allogeneic Gamma Delta Based T Cell Therapies

|-------------------------------|----------------------------------------|-------------------------|------------------------|----------------------|-------------------------------|
| Allogeneic approach simplifies the supply chain and shortens the lead time. | Potential broad treatment for solid malignancies that express Kiromatic developed biomarkers such as Isomesothelin. Solid tumors represent approx. 90% of new cancer cases$^{1}$ | 1. Minimal to no projected Cytokine Release Syndrome (CRS)  
2. Minimal to no projected Immune Cell Associated Neurotoxicity Syndrome (ICANS)  
3. Minimal Projected Graft versus Host Disease (GvHD) therefore no compatibility issues between donors and patients | Strong efficacy in pre-Clinical animal models of CAR-T therapy  
Issues related to low efficacy:  
1. Suppressive Tumor micro-environment (TME)  
2. T-Cell exhaustion and loss of efficacy | 1. Off-The-Shelf vs up to 3-5 weeks for autologous CAR-T such as Kymriah$^{6}$  
2. In-house cGMP manufacturing (full control and vertical integration of manufacturing process) including:  
   a. Unique In-house Vector production  
   b. Cell therapy production | 1. Potential Outpatient treatment means reduced hospitalization and other treatment related costs  
2. Lower projected cost increases patient and health care professional access to these therapies, and also potentially provides important quality-of-life benefits for patients as well |

---


$^{2}$Wang X, et al. Mesothelin isoform 2 as a novel target for allogeneic CAR gamma delta T cell therapy in solid tumors. AACR 2021; Abstract No. 1534

$^{3}$Barber A, et al. Gamma delta T cells engineered with a chimeric PD-1 receptor effectively controls PD-L1 positive tumors in vitro and in vivo with minimal toxicities. AACR 2021; Abstract No.18148


$^{6}$Maziarz RT. CAR T-cell therapy total cost can exceed $1.5M per treatment. Cell Therapy Next; May 29, 2019.
Contents

The Kiromic Difference

Diamond AI™ (Artificial Intelligence)

Gamma Delta T-cell (GDT) Therapy: Mechanism of Action (MOA), Product Pipeline, cGMP Manufacturing

Current Status and Path Forward
Artificial Intelligence and Bioinformatic Analytic Discovery & Development Platform

Algorithms and Large-Scale Genomics Analysis for Target Prediction

A.I. integrated with each stage of the Kiromic therapy production lifecycle
Discovering New Multi-tumor Targets
Identifying Optimal Donors and Patients to Maximize the Therapy Success
Diamond AI™ target discovery platform powers innovation and significantly reduces development time and cost.

1. Diamond AI drives discovery by sifting through billions of data points to identify cancer specific immunotherapy targets, donors with the best GDT cell yields, and patients who will most likely benefit from our therapies.

2. Diamond AI prediction and validation platform reduce development costs by seeking to eliminate targets, donors, and patients that will ultimately fail laboratory analysis.

3. Laboratory studies are then performed to confirm the validity of the AI selections.

Clinical Trials (Phase I)

Diamond Donor AI uses demographics, cytometry, and sequence data to identify the best GDT cell donors – reducing manufacturing cost and potentially improving potency. Diamond data mining can guide selecting patients likely to benefit from Kiromic’s therapies.

Diamond Clinical AI models can continually improve the AI model to maximize efficacy.

In Development
Contents

The Kiromic Difference

Diamond AI™ (Artificial Intelligence)

**Gamma Delta T-cell (GDT) Therapy: Mechanism of Action (MOA), Product Pipeline, cGMP Manufacturing**

Current Status and Path Forward
Kiromic GDT Cell Therapy (Deltacel™, Procel™, and Isocel™)

Multiple Potential Indications

**Deltacel™**
- Non-viral, non-engineered, off-the-shelf product candidate targeting stress ligands on cancer cells

**Procel™**
- Genetically-engineered off-the-shelf product candidate targeting PD-L1+ tumors

**Isocel™**
- Genetically-engineered off-the-shelf product candidate targeting mesothelin isoform 2+ tumors
Gamma Delta T-Cells (GDT): Guardians of the Immune System

- Allogeneic
  Healthy Donors

- Off-the-Shelf
  Cryopreserved

- Innate
  Rapid Acting

- Potent
  and
  Safe

- Commercially
  Viable

GDT: 1-5% of circulating T-cells
Deltacel™: Non-Viral Gamma Delta T-Cell Development

- Bridge between the Innate and Adaptive Immune Response
- Rapid Response to Attack Cancer Cells
- Decreased Toxicity Risk Profile
- Virus Free Expansion and Production
- Kiromic Proprietary In-house GDT Cell Isolation and Expansion

GDT: 1-5% of circulating T-cells
GDT Cell Therapy Mechanism of Action: Targeting Unique **Identifiers** on Tumor Tissues

Upon binding, the GDT cells are instructed to kill the tumor cells expressing the respective target.
GDT chPD1 T Cell Therapy (Procel™)*

**Strong Efficacy**

Procel™ eradicates established NCI-H226 pleural epithelioid mesothelioma and extends survival.

**Strong Safety**

Procel™ does not lead to cytokine level increases modeled to cause severe CRS or CRS, with circulating cell numbers regulated by objective response.

*Preclinical models: nude mice with subcutaneous NCI-H226 cells injections*
GDT CAR-T Cell Therapy (Isocelet™)*

**Strong Efficacy**

Isocelet™ eradicates established NCI-H226 pleural epithelioid mesothelioma and prevents tumor growth in a model of recurrence.

*Preclinical models: nude mice with subcutaneous NCI-H226 cells injections

**Strong Safety**

Isocelet™ does not lead to cytokine level increases modeled to cause severe CRS or CRS, with circulating cell numbers regulated by objective response.

*Preclinical models: nude mice with subcutaneous NCI-H226 cells injections
<table>
<thead>
<tr>
<th>Clinical Trial Candidate</th>
<th>MD Anderson Principal Investigator</th>
<th>Target</th>
<th>Pre-Clinical</th>
<th>Phase I</th>
</tr>
</thead>
<tbody>
<tr>
<td>New IND #1</td>
<td>SRA</td>
<td>Universal Non-Engineered</td>
<td>Q4 2022</td>
<td>Expected Beginning of Activation Process for New IND #1 Clinical Trial</td>
</tr>
<tr>
<td>Deltacel™ in combination with standard antitumor modality Allogeneic, Non-Viral, Non-engineered off-the-shelf GDT therapy</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New IND #2</td>
<td>Yes</td>
<td>PD-L1</td>
<td>Q2 2023</td>
<td>Expected Beginning of Activation Process for New IND #2 Clinical Trial</td>
</tr>
<tr>
<td>Procel™ in combination with standard antitumor modality Allogeneic, off-the-shelf, GDT CAR-T therapy</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALEXIS - PRO-1</td>
<td>No</td>
<td>PD-L1</td>
<td>Q2 2023</td>
<td>Expected Beginning of Activation Process for ALEXIS-PRO-1 Clinical Trial</td>
</tr>
<tr>
<td>Procel™ Allogeneic, off-the-shelf, GDT CAR-T therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New IND #3</td>
<td>Yes</td>
<td>Isoform of Mesothelin</td>
<td>Q4 2023</td>
<td>Targeting Beginning of Activation Process for New IND #3 Clinical Trial</td>
</tr>
<tr>
<td>Isocel™ in combination with standard antitumor modality Allogeneic, off-the-shelf, GDT CAR-T therapy</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALEXIS - ISO-1</td>
<td>No</td>
<td>Isoform of Mesothelin</td>
<td>Q4 2023</td>
<td>Targeting Beginning of Activation Process for ALEXIS-ISO-1 Clinical Trial</td>
</tr>
<tr>
<td>Isocel™ Allogeneic, off-the-shelf, GDT CAR-T therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In-House Manufacturing Creates De-Risked Value

- Completed June 2022
  Pre-requisite to Beginning the Deltacel™ Clinical Trial Activation Process by EOY

- Flexible Cellular Therapy Suites

- Dedicated cGMP Microbiology and QC Lab

- Flexible Viral Vector Suites

- 34,000 sq ft Facility Operations

- 12,000 sq ft R&D Labs and Manufacturing

- CRF9 Compliant Vivarium and Laboratory

Completed June 2022
Pre-requisite to Beginning the Deltacel™ Clinical Trial Activation Process by EOY
Contents

The Kiromic Difference

Diamond AI™ (Artificial Intelligence)

Gamma Delta T-cell (GDT) Therapy: Mechanism of Action (MOA), Product Pipeline, cGMP Manufacturing

Current Status and Path Forward
Kiromic’s Next 12 Months Upcoming Milestones*

**ACHIEVED MILESTONE WITH TIMELY COMPLETION OF EXPANDED CGMP MANUFACTURING FACILITY TO SUPPORT CELL THERAPY ONCOLOGY PIPELINE**

1. ✓ End of Q2 2022

2. Submission of New IND #1 (Deltacel in combination with standard antitumor modality)
   - H2 2022

3. Expected Beginning of Activation Process for New IND #1 Clinical Trial
   - End of Q4 2022

4. Submission of Amended IND for ALEXIS-PRO-1 and New IND #2 (Procel in combination with standard antitumor modality)
   - H1 2023

5. Expected Beginning of Activation Process for ALEXIS-PRO-1 and New IND #2 Clinical Trials
   - End of Q2 2023

*The milestones and timing of completion are based upon the company’s current expectations in consultation with its partners and vendors.
Leadership Team

Pietro Bersani
CPA, CGMA
CEO

Leonardo Mirandola
PhD
CSO

Scott Dahlbeck
MD, PharmD
COS

Michael Ryan
PhD
CBRCO

Dan Clark
CPA, MBA
CFO
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Nagel</td>
<td>Chairperson</td>
<td></td>
</tr>
<tr>
<td>Pietro Bersani</td>
<td>Director</td>
<td>CPA, CGMA</td>
</tr>
<tr>
<td>Americo Cicchetti</td>
<td>Independent Director</td>
<td></td>
</tr>
<tr>
<td>Frank Tirelli</td>
<td>Independent Director</td>
<td></td>
</tr>
<tr>
<td>Karen Reeves</td>
<td>Independent Director</td>
<td>MD</td>
</tr>
</tbody>
</table>
Value Proposition Summary

1. Diamond A.I. Neural Network

2. Allogeneic, Off-the-shelf Cellular Therapy Means Lower Cost, Greater Efficacy, and Access

3. Solid Malignancies

   (~90% of all cancers)

4. In-House cGMP Manufacturing

---
