Next Generation Bi- and Multi-specific Antibodies

Overview
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Biomunex: Executive Summary

Biomunex is a biopharmaceutical company focused on the discovery and development of cutting-edge therapeutic bi- and multi-specific antibodies

- Offers innovative treatment options in immuno-oncology
- Located in Paris (France), with an office in Cambridge (MA, USA)

Biomunex is developing proprietary BiXAb® bi- and multi-specific antibodies and 2 disruptive discovery programs:

- a Tri-specific antibody technology (TriXAb)
- a novel technology for T Cell redirection

Biomunex’s proprietary BiXAb® platform generates the next generation bi- and multi-specific antibodies, enabling the Turnkey formatting of a BiXAb® from any pair of mAbs as building blocks, in less than 3 months

Establishing strategic collaborations with pharmaceutical companies based on:

- BiXAb® proprietary antibody development
- BiXAb® platform for generation of bi- & multi-specific antibodies

2019: Licensing agreement with SANOFI validated the BiXAb Platform
**BiXAb® platform fulfills the 4 key properties of an ideal BsAb technology**

<table>
<thead>
<tr>
<th>4 key properties of an ideal BsAb</th>
<th>Bispecific development with BiXAb®</th>
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<tbody>
<tr>
<td>Fast-design and modularity</td>
<td>• Any pair of mAbs as building blocks</td>
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<tr>
<td></td>
<td>• Turnkey formatting</td>
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<td></td>
<td>• Rapid generation: 2 to 3 months</td>
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<td>• Suitable for any therapeutic domain</td>
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<td>Excellent drug-like properties</td>
<td>• Binding unchanged from parental Ab</td>
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<td>• No aggregation</td>
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<td></td>
<td>• Low risk of immunogenicity</td>
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<td>• Optimal half-life</td>
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<td>Manufacturability and high</td>
<td>• High stability and production yield</td>
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<td>production yield</td>
<td>• High purity</td>
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<tr>
<td>Multi-specific capability</td>
<td>• Versatile platform</td>
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<tr>
<td>&amp; Versatility</td>
<td>• Supports tri- and tetra-specific formats</td>
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</table>

BixAb® Antibodies

- Any pair of mAbs as building blocks
- Turnkey formatting
- Rapid generation: 2 to 3 months
- Suitable for any therapeutic domain
- Binding unchanged from parental Ab
- No aggregation
- Low risk of immunogenicity
- Optimal half-life
- High stability and production yield
- High purity
- Straightforward industrialization
- Versatile platform
- Supports tri- and tetra-specific formats
# Development of proprietary BiXAb® antibodies

<table>
<thead>
<tr>
<th>Oncology Potential Indications</th>
<th>Targets / MoA</th>
<th>Program</th>
<th>Discovery process</th>
<th>Lead development</th>
<th>Regulatory Preclinical (ie. CMC, tox)</th>
<th>Clinical</th>
</tr>
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<tbody>
<tr>
<td>Hematological malignancies &amp; solid tumors</td>
<td>CD38 &amp; PD-L1</td>
<td>BMX-101 program</td>
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<td>Solid tumors &amp; hematological malignancies</td>
<td>Novel T Cell redirection</td>
<td>BMX-501 program</td>
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<td>Immuno-oncology</td>
<td>Trispecific platform (TriXAb)</td>
<td>BMX-901 program</td>
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**Other programs:**
- BMX-002: POC of the BiXAb Platform (currently being out-licensed)
- Anti-EGFR family program in pancreatic cancer (grant from the ANR)
Partnerships and M&A transactions in immuno-oncology highlight the value potential of Biomunex

Potential disruptive cancer treatment options based on the BiXAb® platform:

- **BMX-101**: BiXAb for **solid tumors** (ie: colorectal cancer, NSCLC, etc) and **hematological malignancies** (ie: R/R multiple myeloma, etc)
- **BMX-501**: for **solid tumors** (ie: colorectal cancer, hepatic metastasis, etc) and **hematological malignancies** (ie: non-Hodgkin lymphoma, acute (ALL) and chronic lymph. leukemia (CLL), etc)

Potential partnerships for BiXAb® platform based on following examples:

<table>
<thead>
<tr>
<th>Company</th>
<th>Partner</th>
<th>Platform/Stage</th>
<th>Year</th>
<th>Details</th>
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<tbody>
<tr>
<td>Xencor</td>
<td>Novartis</td>
<td>XmAb BsAb Platform Preclinical</td>
<td>2016</td>
<td>$150M upfront in addition to up to $2.41Bn in clinical, regulatory and sales milestones</td>
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<tr>
<td>Pieris</td>
<td>Servier</td>
<td>Protein – Ab chimera platform, preclinical</td>
<td>2017</td>
<td>$31M upfront + up to $338M for the 1st program + up to $201M for each of the 4+3 potential next ones</td>
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<tr>
<td>Zymeworks</td>
<td>Janssen J&amp;J</td>
<td>Efect BsAb Platform (6 BsaB programs) preclinical</td>
<td>2017</td>
<td>$50M upfront + up to 282M for the 1st program + up to $1,12Bn overall</td>
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Potential M&A transactions for Biomunex based on following examples:

- Micromet acquired by Amgen in 2012 for $ 1.16 Bio
- Covagen acquired by Janssen (Johnson & Johnson) in 2014 for $ 240 Mio
- Dutalys acquired by Roche in 2014 for nearly $ 500 Mio
Biomunex is currently establishing 2 types of strategic collaborations for revenues and value creation

1. Development and out-licensing of proprietary BiXAb® antibodies for IO
   - From discovery through clinical development (Phase II)

2. Strategic collaboration deals based on the BiXAb® platform
   - BiXAb® Partnerships
   - TriXAb trispecific platform and non-CD3 T Cell redirection platform

**Expected Revenues**: upfront, milestone payments, royalties on sales
- Jan. 2019: Biomunex signed a **licensing agreement with Sanofi** for the development of bi- and multi-specific antibodies => validation of the BiXAb® Platform

**Fundraising:**
Biomunex will be raising funds in the near future to increase collaborations, develop disruptive proprietary programs and expand the BiXAb® platform