Glenmark Pharmaceuticals Ltd.

BIOLOGICS DEVELOPMENTS

May 16, 2011

A new way for a new world
Glenmark Out-Licenses Novel Monoclonal Antibody, GBR 500, to Sanofi

Sanofi to develop GBR 500 for Crohn’s Disease and other anti-inflammatory conditions such as Multiple Sclerosis

Upfront payment of US$ 50 million
• US$ 25 million will be paid upon closing of the transaction
• US$ 25 million upon Sanofi’s positive assessment of certain data to be provided by Glenmark

Combined upfront and potential development, regulatory and commercial milestone payments could total US$613 Mn

Glenmark eligible to receive tiered double-digit royalties on sales
Glenmark Out-Licenses Novel Monoclonal Antibody, GBR 500, to Sanofi

Sanofi will have exclusive marketing rights for North America, Europe, Japan, Argentina, Chile and Uruguay

Sanofi and Glenmark will co-market in Russia, Brazil, Australia and New Zealand

Glenmark will retain exclusive marketing rights in India and other countries in the rest of the world
Landmark Deal for Glenmark

The Firsts

- First novel biologics out-licensing deal for Glenmark
- First novel biologics out-licensing deal from Indian company
Landmark Deal for Glenmark

Validates Glenmark’s capabilities in Biologics arena - monoclonal antibodies - one of the largest and fastest growing segment within Biologics

Glenmark recognized as one of the unique global mid-size pharma companies with presence across Novel Chemical Entities (NCE) as well as Novel Biological Entities (NBE)

Second licensing collaboration with Sanofi, one of the largest pharmaceutical companies in the world
<table>
<thead>
<tr>
<th>Compound</th>
<th>Primary Indication</th>
<th>Target</th>
<th>PC</th>
<th>P I</th>
<th>P II</th>
<th>P III</th>
<th>Mkt</th>
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<tbody>
<tr>
<td>Crofelemer</td>
<td>Anti-diarrheal</td>
<td>CFTR Inhibitor</td>
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<td>GRC 4039 (Revamilast)</td>
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<td>PDE IV Inhibitor</td>
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<td>GRC 15300</td>
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<td>GRC 17536</td>
<td>Neuropathic Pain, Respiratory disorders</td>
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<td>VLA-2 Antagonist</td>
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<td>GBR 401</td>
<td>Lymphomas, Leukemias Autoimmune Disorders</td>
<td>Anti-CD19</td>
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<td>GBR 600</td>
<td>Thrombotic thrombocytopenic pupurea Adjunct PCI/ ACS</td>
<td>Anti-Von Willebrand Factor</td>
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<td>GBR 900</td>
<td>Pain</td>
<td>TrkA Antagonist</td>
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In-licensed from Lay Line Genomics S.p.A. (LLG)
Out-licensed to Sanofi
Glenmark’s Biologics R&D Pipeline and Capabilities: An Update

- Biologics Infrastructure
- Biologics Pipeline
- Technologies and Capabilities
Glenmark Biologics Infrastructure: GSA – La Chaux-de-Fonds
Glenmark Pharmaceuticals SA

La Chaux-de-Fonds, Canton of Neuchâtel, Switzerland

Biologics R&D center

- Labs 2006
- 55 scientists, staff from 12 nations
- R&D and process development
- Focus monoclonal antibody products
Subsequent development (pre-clinical and clinical) through Glenmark’s common R&D resources in India, UK and US
Antibodies

Antigen

Antibody
Why Focus on Antibodies?

**Antibodies**
- Four out of 5 top selling drugs are antibodies
- Big pharma companies massively invest into antibodies
  - >20 antibody products on the market, several hundred in development

**Exquisite target specificity**
- Evolved by nature to bind with high specificity to a target
- Other functions, which can be engineered

**Assembly line concept**
- Production and purification “standardized”
  - “Transferable” from product to product
- Formulations generally stable, but can be a challenge
Glenmark Capabilities

“From target to antibody”

Screening technologies

Antibody engineering

Antibody expression

Antibody purification and formulation

Platform technologies

Own intellectual property or freedom to operate
Monoclonal antibody, first in class

Targets α1 domain of human α2β1 integrin (VLA-2)

Novel mechanism
- Inhibits retention of inflammatory cells at site of inflammation

Target expressed only during inflammation
GBR 500

Broad therapeutic spectrum; potential indications:
- Crohn’s disease, inflammatory bowel disease
- Multiple sclerosis
- Potentially other inflammatory diseases
- Potential to expand indications to oncology

In-line with mechanism clean toxicological profile

Phase I dosing completed - drug has been well tolerated with a good pharmacokinetic profile
GBR 600 Key Facts

**Monoclonal antibody, first in class**

**Sub-nM potency**

**Targets the A1 domain of human van Willebrand Factor (vWF)**
- Inhibits vWF mediated platelet aggregation
- “Neutralises” overactive/over expressed vWF

**Excellent safety profile**

**Compelling efficacy in primate models (Baboon)**
GBR 600

Multiple indications

“Neutralization” of overactive/over expressed vWF
E.g. TTP (idiopathic thrombotic thrombocytopenic purpura)

Platelet inhibition
E.g. acute coronary syndrome

Differentiation from other platelet inhibitors

Works in all individuals

Works immediately

No bleeding liability

Can be used to “neutralize” overactive/overexpressed vWF

Excellent safety profile
GBR401 - a better Rituximab

**Anti-CD19 antibody**

- Deplete malignant/auto reactive B cells upon binding
- Same proven concept as Rituximab,
  - but broader therapeutic spectrum and potential to overcome Rituximab resistance

**CD19**

- Expressed exclusively on normal and malignant B cells
- Broader expression than CD20 (the target of Rituximab)

**More individuals can be treated**

- CD20 positive and CD20 negative tumors
- Rituximab resistant individuals
  - Cancer cells loose CD20, but not CD19, upon treatment with Rituximab
GBR 401

**Indications**

- Initial focus oncology
  - B cell tumors
- Autoimmune diseases
  - Deplete B lymphocytes that produce auto-immune antibodies
GBR401 Status

- Monoclonal antibody directed against CD19, best in class potential
- Re-engineered to enhance killing properties
- Excellent results in animal models
- IND enabling studies ongoing
Platform technologies

Basis for
- Improved antibodies
- New antibody formats

Examples
- Improved killing properties of antibodies
- Bi-specific antibodies
- High-yield expression of antibodies
Bi-Specific Antibodies

Standard antibody (e.g. IgG): Binds 2x to the same target

Bi-specific antibody: Binds 1x to 2 different targets
Why Bi-Specific Antibodies?

- Highly specific multi-target drug
  - E.g. oncology

- Improve properties of antibody
  - Enhanced killing or no killing

- Improved therapy, more individuals can be treated

- Unique format, better patent protection
Glenmark Bi-Specific Antibody

- Unique format
  - Intellectual property
- Very good assembly
- Good purification
Thank You!