Current Agreements

Dealdoc

Development and marketing agreement for Vintafolide

Merck and Co
Endocyte

Apr 16 2012

Development and marketing agreement for Vintafolide

Companies:	Merck and Co Endocyte
Announcement date:	Apr 16 2012
Amendment date:	Jun 18 2014
Deal value, US$m:	1000 : sum of milestones and upfront payments

Details

Announcement date:	Apr 16 2012
Amendment date:	Jun 18 2014
Industry sectors:	Bigpharma Pharmaceutical
Compound name:	vintafolide
Asset type:	Compound
Therapy areas:	Oncology » Lung cancer » Non small cell lung cancer Oncology » Ovarian cancer Diagnostics » Companion
Technology types:	Drug delivery » Parenteral » Injectable Radio/Chemo-therapy Small molecules
Deal components:	Co-promotion Development Licensing Marketing Promotion Termination
Stages of development:	Phase II
Geographic focus:	Worldwide

Financials

Deal value, US$m:	1000 : sum of milestones and upfront payments
Upfront, US$m:	120 : upfront payment
Milestones, US$m:	880 : based on development, regulatory and commercial milestones for a total of six cancer indications
Royalty rates, %:	n/d : double-digit royalty payments for rest of world 50.0 : equal share of the profit in United States

More details:

Upfront Payment

- **Amount**: **$120 million**
- **Payment Method**: Lump-sum, paid by Merck to Endocyte upon execution of the agreement

Development, Regulatory & Commercialization Milestones

- **Amount**: Up to **$880 million**
- **Conditions**: Payable upon successful achievement of specific development, regulatory, and commercialization goals across **six cancer indications**

Royalties

- **Percentage**: **Double-digit** royalties on net sales outside the U.S.
- **Territory**: Rest of the world, excluding the United States
- **Exclusivity**: Merck holds **exclusive global rights** to develop and commercialize vintafolide

Profit Sharing

- **Split**: **50/50 profit share** in the U.S.
- **Promotion Rights**:
- Endocyte retains the **right to co-promote** vintafolide in the U.S. (opt-out allowed)
- Merck has **exclusive promotion rights** outside the U.S.

Development Funding Responsibility

- **Endocyte**:
- Funds and completes the **ongoing Phase III PROCEED trial** (platinum-resistant ovarian cancer)
- **Merck**:
- Responsible for **all other development activities and costs**
- Holds **all decision-making rights** for global development and commercialization

Companion Diagnostic (Etarfolatide)

- **Ownership**: Endocyte retains full global responsibility for development, manufacturing, and commercialization
- **Use**: Non-invasive imaging agent to identify folate receptor-positive tumor cells

This summary is intended to provide a general understanding of the financial and structural terms but does not constitute a full or final representation of the agreement.

Termsheet

Parties Involved

- **Merck & Co.**

- **Endocyte, Inc.**

Collaboration Scope

The agreement was focused on the **development and commercialization of vintafolide (EC145)**, an investigational **small molecule drug conjugate (SMDC)** for **cancers expressing folate receptors**, especially **platinum-resistant ovarian cancer** and **non-small cell lung cancer (NSCLC)**. It also included development of **etarfolatide (EC20)**, a **companion diagnostic imaging agent** designed to identify folate-receptor-positive tumors.

Merck obtained **worldwide development and commercialization rights** to vintafolide. Endocyte retained rights to **co-promote in the U.S.** and **full control over etarfolatide**.

Rights & Responsibilities

- **Merck**:
- Gained **exclusive worldwide rights** to vintafolide development and commercialization.
- Assumed **responsibility and cost for all development** beyond the PROCEED trial.
- Had **exclusive promotion rights ex-U.S.**

  Made **all final development decisions** on vintafolide.

  Endocyte:
- Retained **rights to co-promote vintafolide in the U.S.**
- Remained **responsible for the PROCEED Phase 3 trial** and the development, manufacture, and commercialization of **etarfolatide worldwide**.

Financial Terms

- **Upfront Payment**:

  $120 million from Merck to Endocyte (April 2012).

  Milestone Payments:

  Up to **$880 million** for development, regulatory, and commercial milestones across **six cancer indications**.

  Profit Sharing and Royalties:
- **50/50 profit split in the U.S.**
- **Double-digit royalties** to Endocyte on global sales (ex-U.S.)

Regulatory & Development Milestones

- **Vintafolide**:
- Advanced into **Phase 3 (PROCEED trial)** for **platinum-resistant ovarian cancer**.
- Evaluated in **Phase 2 (TARGET trial)** for **NSCLC**.

  Received **Orphan Drug Designation in the EU (March 2012)**.

  Etarfolatide: Used as a **non-invasive imaging agent** to identify patients with folate-receptor-positive tumors to predict response to vintafolide.

Termination of the Agreement

- **Date of Termination**:

  June 17, 2014: Merck **opted out** of the collaboration following a **portfolio review**.

  Reason:

- Merck discontinued development of vintafolide, and **Endocyte regained worldwide rights** to the drug.

- The **TARGET Phase 2b trial** in NSCLC had met its **primary endpoint** (PFS), but Merck still chose to exit before receiving full OS data.

Overall Summary

Merck and Endocyte entered a **strategic global collaboration in April 2012** to co-develop **vintafolide**, a folate receptor-targeting SMDC for cancers such as **ovarian and NSCLC**. The deal brought **$120 million upfront** to Endocyte, with **milestones totaling up to $880 million** and **shared profits in the U.S.** However, in **June 2014**, Merck exited the deal after a portfolio reassessment, returning **global rights** to Endocyte. Despite positive PFS results in NSCLC, Merck discontinued development prior to full OS data availability. Endocyte continued development of its SMDC platform, including next-gen candidates like **EC1456** and **EC1169**.

Press Release

18 June 2014

Endocyte, Inc. (ECYT) Plummets After Merck & Co., Inc. (MRK) Backs Out Of Drug Development Deal; Stock Down -13.99% At Market Close (June 18, 2014)

WEST LAFAYETTE, Ind., June 17, 2014 (GLOBE NEWSWIRE) -- Endocyte, Inc., (Nasdaq:ECYT) today announced that it has regained the worldwide rights to vintafolide in all indications from Merck, known as MSD outside the United States and Canada. Following a comprehensive portfolio assessment, Merck, through a subsidiary, has decided that it will no longer pursue development of vintafolide.

Endocyte will evaluate vintafolide for future development opportunities pending final results from the Phase 2b TARGET trial in patients with non-small cell lung cancer (NSCLC). The companies announced in March that the TARGET trial met its primary progression-free-survival (PFS) endpoint and overall response rates and early overall survival (OS) trends were positive. Neither company has received updated overall survival data since that announcement.

"We look forward to presenting detailed data from the ongoing Phase 2b TARGET trial at an upcoming scientific conference later this year, which will inform the path forward for vintafolide," said Ron Ellis, Endocyte's president and chief executive officer. "We remain confident in our SMDC platform and are in a strong financial position to continue to advance two proprietary SMDCs with the more potent tubulysin warhead. Tubulysin has demonstrated curative activity in preclinical models that were resistant to paclitaxel, cisplatin and vintafolide. These two SMDCs are currently in Phase 1 development: EC1456, targeting the folate receptor, and EC1169, targeting prostate-specific membrane antigen (PSMA)."

About Vintafolide (EC145)

Vintafolide is an investigational proprietary, injectable, SMDC consisting of folate (vitamin B9) linked to a potent vinca alkaloid chemotherapy agent, desacetylvinblastine hydrazide (DAVLBH). Vintafolide is designed to target the chemotherapy agent to rapidly growing cancer cells that actively take up folate via the folate receptor. The folate receptor is expressed in a wide variety of cancers including ovarian cancer and non-small cell lung cancer.

About Endocyte

Endocyte is a biopharmaceutical company and leader in developing targeted small molecule drug conjugates (SMDCs) and companion imaging agents for personalized therapy in cancer and other serious diseases. Endocyte uses its proprietary technology to create novel SMDCs and companion imaging agents for personalized targeted therapies. The company's SMDCs actively target receptors that are expressed or over-expressed on diseased cells, relative to healthy cells. This targeted approach is designed to enable the treatment of patients with highly potent drugs into these cells. The companion imaging agents are designed to identify patients whose disease expresses the molecular target of the therapy and who therefore may be more likely to benefit from treatment. For more information, visit http://www.endocyte.com.

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16 April 2012

Merck and Endocyte Enter Exclusive Worldwide Agreement to Develop and Commercialize Phase III Cancer Candidate Vintafolide (EC145)

WHITEHOUSE STATION N.J. & WEST LAFAYETTE, Ind.--(BUSINESS WIRE)--Merck, known as MSD outside the United States and Canada, (NYSE: MRK) and Endocyte Inc. (NASDAQ: ECYT), today announced that they have entered into an agreement to develop and commercialize Endocyte's novel investigational therapeutic candidate vintafolide (EC145). Vintafolide is currently being evaluated in a Phase III clinical trial for platinum-resistant ovarian cancer, (PROCEED trial) and a Phase II trial for non-small cell lung cancer (NSCLC); both studies are also using Endocyte's investigational companion diagnostic agent, etarfolatide (EC20).

"Vintafolide is a promising and innovative late-stage cancer drug candidate. In addition to pursuing the lead indication of platinum-resistant ovarian cancer, Merck plans to further evaluate its potential for treatment of multiple other cancer types," said Peter S. Kim, executive vice president and president Merck Research Laboratories. "This agreement underscores our strategy of building a portfolio of oncology therapeutics that employ a companion diagnostic to facilitate selection of those patients most likely to respond to treatment."

Under the agreement, Merck, through a subsidiary, will gain worldwide rights to develop and commercialize vintafolide. Endocyte will receive a $120 million upfront payment and is eligible for milestone payments of up to $880 million based on the successful achievement of development, regulatory and commercialization goals for vintafolide for a total of six cancer indications. In addition, if vintafolide receives regulatory approval, Endocyte will receive an equal share of the profit in the United States (U.S.) as well as a double digit percentage royalty on sales of the product in the rest of the world. Endocyte has retained the right to co-promote vintafolide with Merck in the U.S. and Merck has the exclusive right to promote vintafolide in the rest of world. Endocyte will be responsible for the majority of funding and completion of the PROCEED trial. Merck will be responsible for all other development activities and costs and have all decision rights for vintafolide. Endocyte remains responsible for the development, manufacture and commercialization worldwide of etarfolatide, a non-invasive companion diagnostic imaging agent that is used to identify folate receptor positive tumor cells.

"Following a rigorous selection process we believe Merck represents the ideal strategic partner to achieve the full potential of vintafolide, accelerating our development in numerous cancers," said Ron Ellis, Endocyte's president and chief executive officer. "The agreement also positions us well to build our own commercial infrastructure for vintafolide in the U.S. and for etarfolatide worldwide."

Endocyte has completed three single arm studies of vintafolide in patients with advanced platinum resistant ovarian cancer, non-small cell lung cancer and solid tumors. In a randomized Phase II clinical trial (PRECEDENT) comparing vintafolide plus pegylated liposomal doxorubicin (PLD) versus PLD alone in women with platinum-resistant ovarian cancer, vintafolide demonstrated a statistically significant delay in disease progression or death in the overall population, with the largest improvement observed in patients with all tumors imaged as positive for folate receptor expression utilizing etarfolatide. Vintafolide in combination showed limited additional toxicity versus standard therapy with PLD alone. Common adverse events observed with this combination were neutropenia, fatigue, mouth sores, and redness/swelling/pain on the hands and feet.

In March 2012, Endocyte announced that the European Union had granted orphan drug status to vintafolide, and that the company planned to file a marketing authorization application in the third quarter of 2012.

Closing of the transaction is contingent upon obtaining Hart-Scott Rodino clearance from the Federal Trade Commission.

Conference Call

Endocyte will host a conference call and webcast at 8:30am ET today to discuss the agreement. To listen to the conference call, please dial 877-845-0711 or 760-298-5081. A replay of the call will be available beginning at 11:30am ET today. To access the replay, please dial 855-859-2056 or 404-537-3406 and reference the conference ID 72307636. The webcast can be accessed through Endocyte's website at www.endocyte.com.

About Vintafolide (EC145)

Vintafolide is a proprietary, injectable, conjugate consisting of folate (vitamin B9) linked to a potent vinca alkaloid chemotherapy agent, desacetylvinblastine monohydrazide (DAVLBH). Vintafolide is designed to preferentially target the chemotherapy agent to fast growing cancer cells that actively take up folate via the folate receptor. The folate receptor is expressed in a wide variety of cancers including ovarian, NSCLC, breast, colon and kidney.

About Etarfolatide (EC20)

Etarfolatide is a folate-targeted molecular imaging agent that is being developed as a non-invasive method to identify tumors that over-express folate receptors. These tumors are the molecular target of Endocyte's folate-targeted therapeutic compounds such as vintafolide. To date, etarfolatide has been administered to over 550 patients.

About the PROCEED Trial

The PROCEED trial is a Phase III randomized, double-blind clinical trial evaluating vintalofide in combination with PLD compared to PLD plus placebo for the treatment of folate-receptor positive platinum-resistant ovarian cancer. The primary endpoint of the trial is progression-free survival as measured by RECIST (Response Evaluation Criteria In Solid Tumor) criteria in patients with folate-receptor positive tumors assessed by etarfolatide imaging. Overall survival is a secondary endpoint. The trial anticipates recruiting more than 400 patients at approximately 150 sites in the U.S., Canada, Europe, and Asia. For further information regarding the PROCEED trial please visit http://www.clinicaltrials.gov.

About Merck

Today's Merck is a global healthcare leader working to help the world be well. Merck is known as MSD outside the United States and Canada. Through our prescription medicines, vaccines, biologic therapies, and consumer care and animal health products, we work with customers and operate in more than 140 countries to deliver innovative health solutions. We also demonstrate our commitment to increasing access to healthcare through far-reaching policies, programs and partnerships. For more information, visit www.merck.com and connect with us on Twitter, Facebook and YouTube.

About Endocyte

Endocyte is a biopharmaceutical company developing targeted therapies for the treatment of cancer and inflammatory diseases. Endocyte uses its proprietary technology to create novel Small Molecule Drug Conjugates (SMDCs) and companion imaging diagnostics for personalized targeted therapies. The company's SMDCs actively target receptors that are over-expressed on diseased cells, relative to healthy cells. This targeted approach is designed to enable the treatment of patients with highly active drugs at greater doses, delivered more frequently, and over longer periods of time than would be possible with the untargeted drug alone. The companion imaging diagnostics are designed to identify patients whose disease over-expresses the target of the therapy and who are therefore more likely to benefit from treatment.

Filing Data

ITEM 1.01 ENTRY INTO A MATERIAL DEFINITIVE AGREEMENT

On April 13, 2012, Endocyte, Inc. (the “Company”) entered into a Collaboration, Exclusive License and Companion Diagnostic Agreement (the “Agreement”) with Merck Sharp & Dohme Research GmbH, a subsidiary of Merck & Co, Inc. (“Merck”), regarding the development and commercialization of the Company’s novel investigational therapeutic candidate, vintafolide (EC145). The Agreement grants Merck worldwide rights to develop and commercialize vintafolide. The Company will receive a $120 million upfront payment and is eligible for milestone payments of up to $880 million based on the successful achievement of development, regulatory and commercialization goals for vintafolide in a total of six different cancer indications. In addition, following regulatory approval and launch of vintafolide, the Company will receive an equal share of the profit in the United States (U.S.) as well as a double-digit percentage royalty on sales of the product in the rest of the world. The Company has retained the right (which it can opt out of) to co-promote vintafolide with Merck in the U.S. and Merck has the exclusive right to promote vintafolide in the rest of the world. The Company will be responsible for the majority of funding and completion of the ongoing Phase III clinical trial of vintafolide for platinum-resistant ovarian cancer (the PROCEED trial). Merck will be responsible for all other development activities and costs and will have all decision rights with respect to the development and commercialation of vintafolide. The Company will remain responsible for the development, manufacture and commercialization worldwide of etarfolatide (EC20), an investigational non-invasive companion diagnostic imaging agent that is used to identify folate receptor positive tumor cells.

Closing of the transaction contemplated by the Agreement is contingent upon obtaining clearance from the Federal Trade Commission under the Hart-Scott-Rodino Antitrust Improvements Act of 1976.

The foregoing is not a complete summary of all terms of the Agreement and is qualified in its entirety by the full text of the Agreement, which the Company intends to file as an exhibit to future periodic reports filed with the Securities and Exchange Commission.

On April 16, 2012, the Company issued a press release announcing that it had entered into the Agreement, a copy of which press release is attached to this Current Report as Exhibit 99.1 and incorporated herein by reference.

Certain of the statements made in this report are forward looking, such as those, among others, relating to the Company’s expectations for seeking regulatory approval and commercial launch of its products, including any conditional marketing authorization from the EMA, initiation of future clinical trials, and expectations for the receipt of milestones, royalties or other profits from the agreement. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include risks that the Company may experience delays in the completion of its clinical trials (whether caused by competition, adverse events, patient enrollment rates, unavailability of Doxil, regulatory issues or other factors); risks that data from its clinical trials may not be indicative of subsequent clinical trial results; risks related to the safety and efficacy of the Company’s product candidates, the goals of its development activities, estimates of the potential markets for its product candidates, estimates of the capacity of manufacturing and other facilities required to support its product candidates, projected cash needs, and expected financial results. More information about the risks and uncertainties faced by Endocyte, Inc. is contained in the Company’s periodic reports filed with the Securities and Exchange Commission. Endocyte, Inc. disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Contract

Not available.