

November 23, 2015



## **DelMar Pharmaceuticals Updates VAL-083 Clinical Trial in Refractory Glioblastoma Multiforme at Society for Neuro-Oncology Annual Meeting**

- Interim Phase II data supports clinically meaningful survival benefit in post bevacizumab refractory GBM -**
- Quarterly business update conference call with webcast today at 4:30 p.m. ET / 1:30 p.m. PT to incorporate data review -**

VANCOUVER, British Columbia and MENLO PARK, Calif., Nov. 23, 2015 /PRNewswire/ - [DelMar Pharmaceuticals, Inc.](#) (OTCQX: DMPI) ("DelMar" and the "Company"), a biopharmaceutical company focused on the development and commercialization of new cancer therapies, presented updated data from the fully enrolled 14-patient expansion cohort of the Company's ongoing Phase II clinical study of [VAL-083](#) (*dianhydrogalactitol*) in refractory glioblastoma multiforme (GBM) that is being conducted at [Sarah Cannon Research Institute](#), [Mayo Clinic](#), and [UCSF Medical Center](#).



The data were presented at the [20th Annual Scientific Meeting and Education Day of the Society for Neuro-Oncology \(SNO\)](#) in San Antonio, Texas, held November 19-22, in a poster entitled, "*Phase I/II study of Dianhydrogalactitol (VAL-083) In Patients With Recurrent Malignant Glioma.*" Interested parties can access the poster [here](#).

DelMar will host a conference call and live webcast for investors, analysts and other interested parties today at 4:30 p.m. Eastern Time / 1:30 p.m. Pacific Time to provide a business update and discuss these new data.

"The interim survival data from the Phase II expansion cohort is highly promising and consistent with our observations from the Phase I dose-escalation portion of the trial," stated Jeffrey Bacha, DelMar's chairman & CEO. "A Kaplan Meyer survival estimate, based on these preliminary interim data, projects a greater than 9-month median survival in refractory

GBM patients whose tumors have recurred following both front-line therapy with temozolomide and second-line bevacizumab (Avastin®) treatment."

"These results continue to support the potential of VAL-083 to address the significant unmet medical need for these patients who currently have no approved therapeutic options," said Mr. Bacha.

"The Phase II portion of the VAL-083 study in patients with recurrent GBM enrolled very quickly. This rapid enrollment, combined with the enthusiasm we have seen from clinical investigators, is a clear demonstration of the overwhelming unmet medical need for new therapies in the treatment of GBM," stated Mr. Bacha.

"The data from the Phase II cohort of our clinical study continue to show that VAL-083 is well-tolerated at the 40 mg/m<sup>2</sup> dosing regimen. This dose previously demonstrated the potential to improve survival outcomes in post-bevacizumab refractory GBM," Mr. Bacha continued. "The expanded Phase II data set support 40 mg/m<sup>2</sup> as the appropriate dose for advancement into registration-directed Phase II/III clinical trials with VAL-083 in patients with recurrent GBM."

"Additionally, we have continued to demonstrate that the cytotoxic mechanism of VAL-083 is distinct from other chemotherapies used in the treatment of cancer. We can leverage this new understanding of how VAL-083 attacks the tumor with clinical trial data from previously conducted Phase I and Phase II NCI-sponsored clinical trials that validates VAL-083's clinical activity against a range of tumor-types to address modern unmet medical needs in the treatment of cancer," added Mr. Bacha.

"In the case of GBM, we have shown that the anti-tumor activity of VAL-083 is independent of MGMT, the resistance mechanism which causes the majority of GBM patients to fail currently available cytotoxic chemotherapy," said Mr. Bacha.

"Taken together with historical and recently demonstrated clinical activity, these results suggest that VAL-083's distinct anti-cancer mechanism has the potential to overcome chemo-resistance and surpass the standard of care in the treatment of GBM," Mr. Bacha concluded.

DelMar is conducting an [open-label, single-arm Phase I/II dose-escalation study with VAL-083](#) in patients with histologically-confirmed GBM, previously treated with radiation who have failed both front-line therapy temozolomide and second-line Avastin (bevacizumab), and, in most cases, one or more salvage therapies. The study utilized 3+3 dose-escalation design. Patients received VAL-083 on days 1, 2, 3 of a 21-day cycle (ClinicalTrials.gov Identifier NCT01478178) at [Sarah Cannon Research Institute](#), [Mayo Clinic](#), and [UCSF Medical Center](#).

In the [Phase I dose-escalation portion of the study, VAL-083 was well tolerated at doses up to 40mg/m<sup>2</sup>](#) using a regimen of daily x 3 every 21 days. The 40 mg/m<sup>2</sup>/d dose exhibited a favorable safety profile, with a trend toward improved survival versus lower doses. Following [determination of the maximum tolerated dose \(MTD\) at 40 mg/m<sup>2</sup>/d, a 14-patient Phase II expansion cohort was rapidly enrolled at a dose of 40 mg/m<sup>2</sup>/d](#) on day 1, 2, 3 of a 21 day cycle.

## Update on Status of Phase II Expansion Cohort

- 14 patients have been enrolled in the Phase II expansion cohort and all patients have received at least one cycle of treatment to date.
- Safety observations in the Phase II expansion cohort to date are consistent with the Phase I dose-escalation cohort. Generally, observed myelosuppression is mild (Grade 1), with the exception of one patient.
- One subject previously treated with CCNU developed Grade 4 thrombocytopenia suggesting patients with prior nitrosourea treatment who may exhibit higher susceptibility to thrombocytopenia. The inclusion criteria were modified to account for this observation.
- A Kaplan Meyer survival estimate based on interim analysis of patients enrolled in the Phase II expansion cohort is consistent with observations made in the Phase I dose-escalation portion of the study. This preliminary interim analysis suggests a potentially meaningful survival benefit in this population following treatment with VAL-083 at doses  $\geq 30$  mg/m<sup>2</sup>/d in comparison to published reports for the same refractory GBM population.

GBM is the most common and deadly form of brain cancer. Standard front-line treatment following surgical resection is temozolomide chemotherapy combined with radiation treatment followed by maintenance therapy with temozolomide. Temozolomide is often ineffective in the majority of GBM patients by O<sup>6</sup>-methylguanine-DNA-methyltransferase (MGMT), a naturally occurring DNA-repair enzyme causing resistance to treatment.

Bevacizumab (Avastin®) has been approved as second-line therapy for patients failing front-line therapy; however, data presented at the SNO2015 meeting suggest that bevacizumab treatment does not prolong survival for refractory GBM patients. DelMar has demonstrated that VAL-083's anti-tumor activity is unaffected by the expression of MGMT, a DNA repair enzyme that is implicated in chemotherapy resistance and poor outcomes in GBM patients following standard front-line treatment with temozolomide.

Taken together with historical and recently demonstrated clinical activity, these data suggest a distinct anti-cancer mechanism for VAL-083 which has the potential to overcome chemoresistance and surpass the standard of care in the treatment of GBM.

The poster on the clinical trial data presented at SNO may be found on DelMar's website under <http://www.delmarpharma.com/scientific-publications.html>.

## CONFERENCE CALL DETAILS

DelMar is hosting a conference call today at 4:30 p.m. Eastern Time / 1:30 p.m. Pacific Time. For both "listen-only" participants and those who wish to take part in the question and answer portion of the call, the telephone Dial-in Number is (844) 303-8663 (toll-free) with Conference ID 81768802. A link to the webcast and slides will be available on the [IR Calendar](#) of the [Investors section](#) of the Company's website at [www.delmarpharma.com](http://www.delmarpharma.com), and will be archived for 30 days.

## About VAL-083

VAL-083 is a "first-in-class," small-molecule chemotherapeutic. In more than 40 Phase I and II clinical studies sponsored by the U.S. National Cancer Institute, VAL-083 demonstrated clinical activity against a range of cancers including lung, brain, cervical, ovarian tumors and

leukemia both as a single-agent and in combination with other treatments. VAL-083 is approved in China for the treatment of chronic myelogenous leukemia (CML) and lung cancer, and has received orphan drug designation in Europe and the U.S. for the treatment of malignant gliomas.

VAL-083 is a bi-functional DNA N<sup>7</sup> cross-linking agent that crosses the blood-brain barrier that has demonstrated historical clinical activity against a range of cancers, including GBM, in prior NCI-sponsored clinical trials. DelMar has demonstrated that VAL-083 induces phosphorylation of H2AX, a hallmark of double-strand DNA breaks, leading to cell cycle arrest in the late G2/S phase. H2AX is a histone involved in the CHK2 checkpoint activation pathway, a key component of the body's immune response to DNA damage that activates down-stream signaling ultimately resulting in apoptosis (cancer cell death). Additionally, the cytotoxic activity of VAL-083 appears to be less dependent on wild type p53 in comparison to other chemotherapeutic agents. Alteration in p53 has been correlated with poor patient outcomes in GBM. In particular, gain-of-function mutant p53 is strongly associated with a poor prognosis for overall survival in patients with glioblastoma, potentially by increasing expression of MGMT, a DNA repair enzyme that is implicated in chemotherapy resistance to temozolomide and poor outcomes in GBM patients.

[DelMar has previously demonstrated that VAL-083's anti-tumor activity is unaffected by the expression of MGMT.](#) Taken together with historical and recently demonstrated clinical activity, these data suggest a distinct anti-cancer mechanism for VAL-083 which has the potential to overcome chemo-resistance and surpass the standard of care in the treatment of GBM.

DelMar recently announced the completion of enrollment in a Phase II clinical trial of VAL-083 in refractory GBM. Patients have been enrolled at five clinical centers in the United States: Mayo Clinic (Rochester, MN); UCSF (San Francisco, CA) and three centers associated with the Sarah Cannon Cancer Research Institute (Nashville, TN, Sarasota, FL and Denver, CO).

In the Phase I dose-escalation portion of the study, VAL-083 was well tolerated at doses up to 40mg/m<sup>2</sup> using a regimen of daily x 3 every 21 days. Adverse events were typically mild to moderate; no treatment-related serious adverse events reported at doses up to 40 mg/m<sup>2</sup>. Dose limiting toxicity (DLT) defined by thrombocytopenia (low platelet counts) was observed in two of six (33%) of patients at 50 mg/m<sup>2</sup>. Generally, DLT-related symptoms resolved rapidly and spontaneously without concomitant treatment, although one patient who presented with hemorrhoids received a platelet transfusion as a precautionary measure.

Sub-group analysis of data from the Phase I dose-escalation portion of the study suggested a dose-dependent and clinically meaningful survival benefit following treatment with VAL-083 in GBM patients whose tumors had progressed following standard treatment with temozolomide, radiotherapy, bevacizumab and a range of salvage therapies.

Patients in a low dose ( $\leq 5\text{mg/m}^2$ ) sub-group had a median survival of approximately five (5) months versus median survival of approximately nine (9) months for patients in the therapeutic dose (30mg/m<sup>2</sup> & 40mg/m<sup>2</sup>) sub-group following initiation of VAL-083 treatment. DelMar reported increased survival at 6, 9 and 12 months following initiation of treatment with VAL-083 in the therapeutic dose sub-group compared to the low dose sub-group.

Further details can be found at <http://www.delmarpharma.com/scientific-publications.html>.

#### **About DelMar Pharmaceuticals, Inc.**

DelMar Pharmaceuticals, Inc. was founded to develop and commercialize new cancer therapies in indications where patients are failing or have become intolerable to modern targeted or biologic treatments. The Company's lead drug in development, VAL-083, is currently undergoing clinical trials in the U.S. as a potential treatment for refractory glioblastoma multiforme. VAL-083 has been extensively studied by U.S. National Cancer Institute, and is currently approved for the treatment of chronic myelogenous leukemia and lung cancer in China. Published pre-clinical and clinical data suggest that VAL-083 may be active against a range of tumor types via a novel mechanism of action that could provide improved treatment options for patients.

For further information, please visit <http://delmarpharma.com/>; or contact DelMar Pharmaceuticals Investor Relations: [ir@delmarpharma.com](mailto:ir@delmarpharma.com) / (604) 629-5989. Connect with the Company on [Twitter](#), [LinkedIn](#), [Facebook](#), and [Google+](#).

#### **Safe Harbor Statement**

*Any statements contained in this press release that do not describe historical facts may constitute forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. Any forward-looking statements contained herein are based on current expectations, but are subject to a number of risks and uncertainties. The factors that could cause actual future results to differ materially from current expectations include, but are not limited to, risks and uncertainties relating to the Company's ability to develop, market and sell products based on its technology; the expected benefits and efficacy of the Company's products and technology; the availability of substantial additional funding for the Company to continue its operations and to conduct research and development, clinical studies and future product commercialization; and, the Company's business, research, product development, regulatory approval, marketing and distribution plans and strategies. These and other factors are identified and described in more detail in our filings with the SEC, including, our current reports on Form 8-K.*

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To view the original version on PR Newswire, visit <http://www.prnewswire.com/news-releases/delmar-pharmaceuticals-updates-val-083-clinical-trial-in-refractory-glioblastoma-multiforme-at-society-for-neuro-oncology-annual-meeting-300183054.html>

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