UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

**FORM 8-K**

CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934

Date of report (date of earliest event reported): September 25, 2007

**ZIOPHARM Oncology, Inc.**
(Exact name of registrant as specified in its charter)

| Delaware | 0-32353 | 84-1475642 |
|---|---|---|
| (State or other jurisdiction of incorporation) | (Commission File Number) | (IRS Employer Identification No.) |

**1180 Avenue of the Americas, 19th Floor**
**New York, NY 10036**
(Address of principal executive offices) (Zip Code)

**(646) 214-0700**
(Registrant's telephone number, including area code)

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

**Item 8.01. Other Events.**

On September 25, 2007, ZIOPHARM Oncology, Inc. issued the press releases attached hereto as Exhibit 99.1 and Exhibit 99.2, which are incorporated herein by reference.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

| | |
|---|---|
| 99.1 | Press Release dated September 25, 2007. |
| 99.2 | Press Release dated September 25, 2007. |

**SIGNATURE**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

ZIOPHARM Oncology, Inc.:
(Registrant)

Date: September 26, 2007

By: /s/ Richard E. Bagley

Richard E. Bagley,
*President, Chief Operating Officer*
*and Chief Financial Officer*

Exhibit Index

| Exhibit No. | Description |
| --- | --- |
| 99.1 | Press Release dated September 25, 2007. |
| 99.2 | Press Release dated September 25, 2007. |


**Data From Ongoing Hematological Trials With Darinaparsin**
**Presented at European College of Clinical Oncology Annual Meeting**

BARCELONA, Spain, Sep 25, 2007 (BUSINESS WIRE) -- ZIOPHARM Oncology, Inc. (NASDAQ: ZIOP), announced today the presentation of data from ongoing clinical trials of darinaparsin (ZIO-101) to treat advanced hematological malignancies. The data were presented yesterday at the 14th Annual European Cancer Conference (ECCO) meeting being held in Barcelona, Spain. The ongoing studies, primarily in patients with advanced leukemia, are evaluating the safety and activity of intravenously administered darinaparsin.

Of 14 evaluable patients with advanced disease, 12 had acute myelogenous leukemia (AML) and two had myelodysplasia (MDS). As a measure of clinical activity, five of the 12 AML patients, or 42%, had a decrease in peripheral blood myeloblasts while both of the MDS patients experienced stable disease. Importantly, therapy with darinaparsin was well tolerated, particularly with regard to cardiac toxicity, and adverse events were mild to moderate in severity.

The Company's Chief Medical Officer, Dr. Brian Schwartz, commented, "The anti-leukemic activity and safety profile with darinaparsin in these advanced AML patients is very encouraging. This suggests that both the intravenous and oral administration of darinaparsin could be a promising treatment for hematologic cancers as a single agent or in combination with approved leukemia therapies. We look forward to completing the ongoing phase II study which has recently added sites in the United States and has been extended to India as well to include earlier stage patients."

About Darinaparsin (ZIO-101)

Darinaparsin is a proprietary small molecule organic arsenic that induces cell cycle arrest and cell death by targeting several cellular pathways essential for cell survival. Exposure to darinaparsin has a direct as well as indirect effect on mitochondrial functions, resulting in depletion of energy supply to the cell and induction of apoptosis (programmed cell death). Increase in intra-cellular Reactive Oxygen Species enhances this effect on mitochondrial functions and consequently the activation of the signal transduction pathway leading to apoptosis. In addition, darinaparsin interrupts the cell cycle at the G2/M phase of tumor cells inducing cell death through this pathway as well. Intravenously administered darinaparsin is in multiple phase II trials in advanced myeloma, other hematological malignancies, and liver cancer. An oral form of darinaparsin is in phase I study to treat solid tumors.

About ZIOPHARM Oncology, Inc.

ZIOPHARM Oncology, Inc. is a biopharmaceutical company engaged in the development and commercialization of a diverse, risk-sensitive portfolio of in-licensed cancer drugs to address unmet medical needs. The Company applies new insights from molecular and cancer biology to understand the efficacy and safety limitations of approved and developmental cancer therapies and identifies proprietary and related molecules for better patient treatment. For more information, visit www.ziopharm.com.

Forward-Looking Safe Harbor Statement:

This press release contains forward-looking statements for ZIOPHARM Oncology, Inc. that involve risks and uncertainties that could cause the Company's actual results to differ materially from the anticipated results and expectations expressed in these forward-looking statements. These statements are based on current expectations, forecasts and assumptions that are subject to risks and uncertainties, which could cause actual outcomes and results to differ materially from these statements. Among other things, there can be no assurance that any of the Company's development efforts relating to its product candidates will be successful, or such product candidates will be successfully commercialized. Other risks that affect forward-looking information contained in this press release include the possibility of being unable to obtain regulatory approval of the Company's product candidates, the risk that the results of clinical trials may not support the Company's claims, and risks related to the Company's ability to protect its intellectual property and its reliance on third parties to develop its product candidates. The Company assumes no obligation to update these forward-looking statements, except as required by law.

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SOURCE: ZIOPHARM Oncology, Inc.

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**Positive ZIO-201 Interim Phase II Sarcoma Data Presented at European College of Clinical Oncology Annual (ECCO) Meeting**

**BARCELONA, Spain (September 25, 2007) -** ZIOPHARM Oncology, Inc. (NASDAQ: ZIOP) announces that positive interim data from an ongoing phase II trial of ZIO-201 (isophosphoramide mustard- IPM) to treat refractory sarcoma patients were presented by Rashmi Chugh, MD, Principal Investigator from the University of Michigan at the 14th Annual European Cancer Conference (ECCO) meeting being held in Barcelona, Spain. The trial has now enrolled 51 patients with soft tissue sarcoma or osteosarcoma and the reported interim dataset included the first 31 evaluable patients. These patients were refractory to treatment, having undergone a median of four prior regimens. Key findings for these 31 evaluable patients at the time of analysis include:

- In 14 of the 31 patients (45%), there is a clinically beneficial response including one partial response (PR), four minor responses (MR), and nine with stable disease (SD).
- In patients with leiomyosarcoma, five of seven patients (71%), have stable disease or better; refractory leiomyosarcoma is very difficult to treat with any available therapies.
- Of the 31 patients, 80% had previously been treated with ifosfamide (IFOS) while 20% were IFOS naïve; of the IFOS naïve, six of seven (86%) have stable disease or better.
- ZIO-201 is well tolerated with adverse events primarily mild to moderate and gastrointestinal or renal related, while no significant bone marrow suppression, alopecia (hair loss), or neurotoxicity were reported.

Sarcoma is a less well known and understood form of cancer with very few treatment alternatives following surgery. There is no Food and Drug Administration (FDA) approved agent to treat advanced/unresectable sarcoma.

Principal investigator, Rashmi Chugh, M.D, stated, “These positive interim results are encouraging with ZIO-201 clearly demonstrating clinical activity without the bone marrow suppression and neurotoxicities associated with IFOS treatment. These findings also suggest that ZIO-201 is a promising candidate to combine with other treatments to enhance activity without overlapping toxicities.”

Robert G. Maki, MD, PhD., co-leader of the Adult Sarcoma Disease Management Team at Memorial Sloan Kettering Cancer Center and not directly participating in this study, commented, “These interim data from a difficult-to-treat population demonstrate ZIO-201 to be a very promising drug candidate. We look forward to the maturation of data for the phase II trial with the expectation of an ensuing pivotal trial, as ZIO-201 could be of significant clinical benefit in the treatment of this disease.”

**Positive ZIO-201 Interim Phase II Sarcoma Data Presented at European College of Clinical Oncology Annual (ECCO) Meeting**

The Company expects to report final data at upcoming medical meetings, including the Connective Tissue Oncology Society Annual Meeting in November 2007.

**About ZIO-201**

ZIO-201, the active moiety of IFOS, is a bi-functional alkylator that causes irreparable inter-strand DNA cross-linking resulting in cell death. ZIO-201 is equal to or more active than ifosfamide (IFOS) in diverse cancer models. Unlike IFOS, which is a pro-drug, ZIO-201 is directly active against cancer cells. Also, unlike IFOS, ZIO-201 is not metabolized to acrolein or chloroacetaldehyde which cause bladder or central nervous system toxicities. ZIO-201 continues in a phase II trial in advanced sarcoma. Trials in ovarian and pediatric cancers are in the advanced planning stage. An oral form of ZIO-201 is in advanced preclinical development.

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