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): August 4, 2008

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 August 4, 2008, ZIOPHARM Oncology, Inc. issued the press release attached hereto as Exhibit 99.1, which is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

99.1 Press Release dated August 4, 2008.

SIGNATURES

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: August 4, 2008

By: /s/ Richard E. Bagley

Name: Richard E. Bagley
Title: President and Chief Operating Officer

ZIOPHARM Oncology, Inc.

Leukemia Journal Publishes Results from Darinaparsin Study

Study Suggests Potentially Broader Therapeutic Spectrum for Darinaparsin than Inorganic Arsenic

New York, NY, August 04, 2008 - ZIOPHARM Oncology, Inc. (NASDAQ:ZIOP) announced today the publication of results from a pre-clinical study of darinaparsin (ZIO-101) in the July 17, 2008 on line advance publication issue of Leukemia, a *Nature* publication. The article, titled "A novel arsenical has antitumor activity toward As_2O_3-resistant and MRP_1/$ABCC_1$- overexpressing cell lines," was led by Wilson Miller, M.D., Ph.D., Professor, Medicine and Oncology, McGill University-Jewish General Hospital in Montreal, Canada.

The study showed that darinaparsin is highly active *in vitro* against certain leukemia cells that are resistant to inorganic arsenic (arsenic trioxide—ATO) because they express a drug resistance protein (MRP1/ABCC1). This greater antitumor activity was demonstrated through the more potent induction of oxidative stress and programmed cell death (apoptosis). It also correlated with substantially greater accumulation of arsenic in darinaparsin-treated leukemia cells than those treated with inorganic arsenic, possibly because inorganic arsenic is more efficiently exported by the drug resistance proteins.

The study also demonstrated that darinaparsin triggers apoptosis by inducing signaling pathways that do not completely overlap with ATO. Whereas both darinaparsin and ATO act via the Jun kinase (JNK) pathway, darinaparsin did not depend on mechanisms normally associated with ATO's therapeutic activity, including the degradation of the promyelocytic leukemia/retinoic acid receptor α (PML/RARα) oncoprotein and rearrangement of PML nuclear bodies.

"This study suggests that darinaparsin may have a broader therapeutic spectrum than inorganic arsenic, as it is less affected by the resistance mechanisms of certain cancer cells," stated Dr. Miller. "The successful application of a treatment that offers inorganic arsenic's efficacy in acute promyelocytic leukemia, to other more common malignancies, would be significant. I look forward to seeing more data from ongoing clinical and pre-clinical studies."

About Darinaparsin

Darinaparsin is a proprietary small molecule organic arsenic licensed from The University of Texas M. D. Anderson Cancer Center and Texas A&M University. Darinaparsin 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.

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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