ZIOPHARM Oncology, Inc.

Preclinical Darinaparsin Study in PLoS ONE Publication

-- Demonstrates Unique Multi-Pathway Mechanism of Action Including Stress Induction and Sonic Hedgehog Signaling --

NEW YORK--(BUSINESS WIRE)-- ZIOPHARM Oncology, Inc. (Nasdaq: ZIOP) announced today the publication of a darinaparsin (Zinapar® or ZIO-101) study in the *PLoS ONE*, an international, peer-reviewed, open-access, online publication of the Public Library of Science. The publication, titled "Darinaparsin Is a Multivalent Chemotherapeutic Which Induces Incomplete Stress Response with Disruption of Microtubules and Shh Signaling," was conducted by a Vanderbilt University Medical Center research team from the Departments of Cell and Developmental Biology, the Epithelial Biology Center, and Department of Surgery.

The study describes darinaparsin's anti-cancer activity as a unique multivalent mitochondrial-targeting agent acting on cell stress induction, microtubule polymerization and sonic hedgehog signaling ("Shh"). The publication concludes that darinaparsin's range of action against these multiple drivers of neoplastic cell proliferation may make this organic arsenical an effective therapy for multiple resistant solid and hematological malignancies. The publication is available online at http://dx.plos.org/10.1371/journal.pone.0027699.

Darinaparsin is currently in a Phase 1 study in solid tumors using an oral formulation.

About ZIOPHARM Oncology, Inc.:

ZIOPHARM Oncology is a biopharmaceutical company engaged in the development and commercialization of a diverse portfolio of cancer therapeutics. The Company's small molecule programs include:

Palifosfamide (Zymafos® or ZIO-201) is a novel DNA cross-linker in class with bendamustine, ifosfamide, and cyclophosphamide and is currently in a randomized, double-blinded, placebo-controlled Phase 3 trial with palifosfamide administered intravenously for the treatment of metastatic soft tissue sarcoma in the front-line setting. The Company is also currently conducting a Phase 1 study of palifosfamide in combination with standard of care for addressing small cell lung cancer; an oral form of palifosfamide continues in preclinical study.

Darinaparsin (Zinapar® or ZIO-101) is a novel mitochondrial- and hedgehog-targeted agent (organic arsenic) currently in a solid tumor Phase 1 study with oral administration and has been developed intravenously for the treatment of relapsed peripheral T-cell lymphoma.

Indibulin (Zybulin™ or ZIO-301) is a novel, oral tubulin binding agent that is expected to have several potential benefits including oral dosing, application in multi-drug resistant tumors, no neuropathy and a quite tolerable toxicity profile. It is currently being studied in Phase 1/2 in metastatic breast cancer.

ZIOPHARM is also pursuing the development of novel DNA-based therapeutics in the field of cancer pursuant to a partnering arrangement with Intrexon Corporation. The partnership includes two existing clinical-stage product candidates, both of which are currently in Phase 1. ZIOPHARM's principal operations are located in Boston, MA with an executive office in New York City and a small satellite office in Germantown, MD. Further information about ZIOPHARM may be found at www.ziopharm.com.

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Forward-Looking Safe Harbor Statement:

This press release contains certain forward-looking information about ZIOPHARM Oncology that is intended to be covered by the safe harbor for "forward-looking statements" provided by the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts. Words such as "expect(s)," "feel(s)," "believe(s)," "will," "may," "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to, statements regarding our ability to successfully develop and commercialize our therapeutic products; our ability to expand our long-term business opportunities; financial projections and estimates and their underlying assumptions; and future performance. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those

expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: whether Palifosfamide, Darinaparsin, Indibulin, or any of our other therapeutic products will advance further in the clinical trials process and whether and when, if at all, they will receive final approval from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies and for which indications; whether Palifosfamide, Darinaparsin, Indibulin, and our other therapeutic products will be successfully marketed if approved; whether our DNA-based biotherapeutics discovery and development efforts will be successful; our ability to achieve the results contemplated by our collaboration agreements; the strength and enforceability of our intellectual property rights; competition from pharmaceutical and biotechnology companies; the development of and our ability to take advantage of the market for DNA-based biotherapeutics; our ability to raise additional capital to fund our operations on terms acceptable to us; general economic conditions; and the other risk factors contained in our periodic and interim SEC reports including but not limited to our Annual Report on Form 10-K for the fiscal year ended December 31, 2010, our Quarterly Report on Form 10-Q for the quarter ended September 30, 2011, and our Current Reports on Form 8-K filed from time to time with the Securities and Exchange Commission. Readers are cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

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Source: ZIOPHARM Oncology, Inc.