



Contact:

Priscilla Harlan
Vice President, Corporate Communications
Molecular Insight Pharmaceuticals, Inc.
(617) 492-5554

FOR IMMEDIATE RELEASE

Molecular Insight Pharmaceuticals, Inc. Initiates Phase 2a Azedra™ Clinical Trial in Neuroblastoma Patients

Cambridge, MA, May 1, 2008 – Molecular Insight Pharmaceuticals, Inc. (NASDAQ: MIPI) announced today that it has initiated a Phase 2a clinical trial of Azedra (Ultratrace™ iobenguane I-131 or Ultratrace MIBG) for the treatment of children with high-risk neuroblastoma, a neuroendocrine cancer that primarily affects children. Azedra is a targeted radiotherapeutic comprised of the known I-131 MIBG molecule radiolabeled using Molecular Insight's proprietary Ultratrace technology, which removes unnecessary nonradioactive molecules, or cold contaminants, and has the potential to maximize the amount of radiation delivered to tumor cells, improving tumor kill while reducing side effects. The trial is being coordinated by the New Approaches to Neuroblastoma Therapy (NANT) Consortium, a group of 14 universities and Children's Hospitals with strong research and treatment programs for neuroblastoma.

The primary objective of the trial is to determine the maximum tolerated dose (MTD) of Azedra in children with neuroblastoma. Secondary goals are to determine tumor and dose responses; determine toxicity; estimate normal organ dosimetry; and describe the effect of Azedra therapy on overall quality of life. Approximately 24 patients across NANT's 14 sites will be scanned using an imaging dose of Azedra to determine if the imaging dose demonstrates normal MIBG biodistribution and tumor uptake. Cohorts of three to six patients will then receive one therapeutic dose of Azedra within 28 days of the MIBG biodistribution and tumor uptake scan. Disease and final toxicity evaluation will be performed approximately 60 days post therapy, as will a quality of life assessment.

Azedra is a small molecule, targeted radiotherapeutic based on the known I-131 MIBG molecule produced with Molecular Insight's proprietary Ultratrace technology. MIBG binds to the norepinephrine transporter, a protein that is highly expressed on neuroendocrine tumors such as neuroblastoma. Azedra has received both Orphan Drug and Fast Track designations from the U.S. FDA. For more information or the entire press release, please visit www.molecularinsight.com.

Forward-Looking Statements

Statements in this release that are not strictly historical in nature constitute "forward-looking statements." Such statements may include, without limitation, statements with respect to the Company's plans, objectives, expectations and intentions and other statements identified by words such as "may," "could," "would," "should," "believes," "expects," "anticipates," "estimates," "intends," "plans" or similar expressions. Examples of such statements include, but are not limited to, the number of patients that will be scanned during the trials, the number of patients that will receive a therapeutic dose of Azedra within 28 days of the MIBG biodistribution and tumor uptake scan, the timing when disease and final toxicity evaluation will be performed, statements regarding potential uses of Azedra or Ultratrace, other statements regarding product candidates, product development programs, the U.S. FDA, or the clinical trial process or its outcomes. Such forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause the actual results of Molecular Insight to be materially different from historical results or from any results expressed or implied by such forward-looking statements. These factors include, but are not limited to, risks and uncertainties related to the progress, timing, cost, and results of clinical trials and product development programs; difficulties or delays in obtaining regulatory approval for product candidates; competition from other pharmaceutical or biotechnology companies; and the additional risks discussed in filings with the Securities and Exchange Commission. All forward-looking statements are qualified in their entirety by this cautionary statement, and Molecular Insight undertakes no obligation to revise or update this news release to reflect events or circumstances after the date hereof.

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