

# News Release

## HepaLife's Bioartificial Liver Exceeds Expectations in New Tests Conducted Over Prolonged Periods of Time

HepaLife's patented PICM-19 liver cells and artificial liver device 'bioreactor' show ability to mimic important human liver function with highest levels of liver-specific metabolic activity over 14 day period; Traditional 'primary' cells rapidly lose capabilities.

**Boston, MA – May 12, 2008** - HepaLife Technologies, Inc. (OTCBB: HPLF) (FWB: HL1) (WKN: 500625) today announced that new tests of its bioartificial liver device demonstrate the Company's bioreactor system and patented PICM-19 cells inside the device remain functional over prolonged periods time, far exceeding the number of treatment hours referenced in published research studies of human liver failure patients undergoing conventional liver support therapies.

"Today's news marks yet another favorable outcome from a series of significant tests that researchers have recently conducted on our bioartificial liver device, all designed to progressively move us towards in vivo animal trials – a significant step towards the commercialization of our technology," explained Mr. Frank Menzler, President and CEO of HepaLife Technologies, Inc.

"Previous tests have shown the ability of our liver cells to consistently outperform other cell technologies, including the world's most widely used human liver cell line, HepG2. Importantly, these newest test results now confirm that our patented PICM-19 liver cells retain their functionality inside our liver device's bioreactor system for long periods of time. Moreover, the entire system can function far longer than conventional treatment periods for human liver failure patients, a key capability that could potentially provide physicians and clinicians with a more flexible, longer-lasting treatment option."

Outcomes from new tests show that HepaLife's bioartificial liver device system is able to successfully retain the highest levels of liver-specific metabolic activity -- mimicking the most important functions of the human liver -- for 14 days, a substantially longer period than the 6 to 48 hour conventional treatments described in published research papers. Researchers anticipate that the ability of HepaLife's patented liver cells in combination with its proprietary bioreactor system to remain functional for extended periods of time may provide for more efficient and flexible patient treatment options over prolonged periods of time, potentially improving patient outcomes as a result.

### **HepaLife's First-Of-Its-Kind Bioartificial Liver: Results Prompt In-Vivo Animal Trials**

In tests conducted over a 14 day period, researchers observed that HepaLife's patented PICM-19 cells maintained 'differentiated hepatocyte function', the key to their ability to remain functional as liver cells inside the Company's bioartificial liver device.

Researchers have also conducted studies designed to model the environment present when treating human liver failure patients, exposing the Company's liver cells to human blood plasma and toxic ammonia. Notably, HepaLife's PICM-19 cell line successfully removed toxic ammonia, produced urea, and expressed CYP-450 enzymes - - all leading indicators of liver function. While HepaLife's PICM-19 cells maintained their differentiated hepatocyte function and CYP-450 activity in the presence of human plasma, CYP-450 activity was rapidly lost in conventional cell technologies, including primary hepatocytes and the world's most widely-used human liver cell line, HepG2.

Exposure to human blood plasma did not affect the ability of HepaLife's PICM-19 cells to clear toxic ammonia. The clearance rate of ammonia utilized per hour was similar to the rate observed for ammonia challenges performed in culture medium. The conversion of ammonia to urea in culture medium occurred at near-theoretical levels and the average rate of ammonia clearance by the PICM-19 liver cells was equivalent to rates obtained for primary porcine hepatocytes, thereby successfully replicating the closest in vitro model of native liver function in nature.

When challenged with high amounts of toxic ammonia, present in patients with acute liver failure, HepaLife's bioartificial liver reduced ammonia levels by 75% within less than 24 hours. Published human clinical data of systems utilizing liver cells other than HepaLife's patented PICM-19 cells, have only reported ammonia reduction levels between 0 to 44%.

The primary mechanism for reducing toxic ammonia in the native liver is by producing urea. The theoretical ratio of urea formed from ammonia is 1:1. In recent tests of the Company's liver cells, 85% of the present ammonia was converted to urea. HepaLife's PICM-19 liver cells are the only cell line known to have a complete urea cycle producing significant amounts of urea.

Most importantly, scientists' extrapolations based on the calculated rate of ammonia clearance indicate that HepaLife's bioartificial liver has sufficient capacity to treat the targeted acute liver failure animal model in HepaLife's anticipated initial in-vivo trials. In published studies of in-vivo clinical data from liver support technologies utilizing conventional primary porcine liver cells, the levels of reported ammonia reduction in an animal model are significantly less than the ammonia reduction observed in recent tests of HepaLife's bioartificial liver device by scientists. Researchers attribute the advanced performance of HepaLife's bioartificial liver to its unique use of the Company's patented PICM-19 liver cells in combination with the novel design of the bioreactor system in which the cells are housed.

Intended for the treatment of liver failure, the HepaLife™ Bioartificial Liver device consists of three basic components: (1) a plasma filter, separating the patient's blood into blood plasma and blood cells; (2) the bioreactor, a unit filled with the patented PICM-19 liver stem cell line which biologically mimics the liver's function; and (3), the HepaDrive™, a perfusion system for pumping the patient's plasma through the bioreactor while controlling gas supply and temperature for best possible performance of the cells.

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**ABOUT HEPALIFE TECHNOLOGIES, INC.**

Based in Boston, Massachusetts, HepaLife Technologies, Inc. (OTCBB: HPLF) (FWB: HL1) (WKN: 500625) is a developer of cell-based medical technologies addressing prevalent human health concerns.

HepaLife is working towards the first-of-its-kind bioartificial liver device for acute liver failure using the Company's patented PICM-19 liver stem cell line. The HepaLife™ bioartificial liver, currently under development, is designed to serve as a supportive device, either allowing the liver to regenerate upon acute liver failure, or to bridge the patient's liver functions until a transplant is available.

Utilizing its patented liver stem cell line PICM-19, HepaLife is designing testing platforms to improve the pharmaceutical industry's capability to evaluate drug toxicity and possible side-effects before pharmaceutical compounds are commercially distributed.

For additional information, please visit [www.HepaLife.com](http://www.HepaLife.com).

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No statement herein should be considered an offer or a solicitation of an offer for the purchase or sale of any securities. This release contains forward-looking statements that are based upon current expectations or beliefs, as well as a number of assumptions about future events. Although the Company believes that the expectations reflected in the forward-looking statements and the assumptions upon which they are based are reasonable, it can give no assurance that such expectations and assumptions will prove to have been correct. Forward-looking statements, which involve assumptions and describe our future plans, strategies, and expectations, are generally identifiable by use of the words "may," "will," "should," "could," "expect," "anticipate," "estimate," "believe," "intend," or "project" or the negative of these words or other variations on these words or comparable terminology. The reader is cautioned not to put undue reliance on these forward-looking statements, as these statements are subject to numerous factors and uncertainties, including but not limited to adverse economic conditions, intense competition, lack of meaningful research results, entry of new competitors and products, adverse federal, state and local government regulation, inadequate capital, unexpected costs and operating deficits, increases in general and administrative costs, termination of contracts or agreements, technological obsolescence of the Company's products, technical problems with the Company's research and products, price increases for supplies and components, litigation and administrative proceedings involving the Company, the possible acquisition of new businesses or technologies that result in operating losses or that do not perform as anticipated, unanticipated losses, the possible fluctuation and volatility of the Company's operating results, financial condition and stock price, losses incurred in litigating and settling cases, dilution in the Company's ownership of its business, adverse publicity and news coverage, inability to carry out research, development and commercialization plans, loss or retirement of key executives and research scientists, changes in interest rates, inflationary factors, and other specific risks. We currently have no commercial products intended to diagnose, treat, prevent or cure any disease. The statements contained in this press release regarding our on going research and development and the results attained by us to-date have not been evaluated by the Food and Drug Administration. There can be no assurance that further research and development, and /or whether clinical trial results, if any, will validate and support the results of our preliminary research and studies. Further, there can be no assurance that the necessary regulatory approvals will be obtained or that HepaLife will be able to develop

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• Page 4

**HepaLife's Bioartificial Liver Outperforms for Prolonged Periods of Time**

commercially viable products on the basis of its technologies. In addition, other factors that could cause actual results to differ materially are discussed in the Company's most recent Form 10-Q and Form 10-K filings with the Securities and Exchange Commission. These reports and filings may be inspected and copied at the Public Reference Room maintained by the U.S. Securities & Exchange Commission at 100 F Street, N.E., Washington, D.C. 20549. You can obtain information about operation of the Public Reference Room by calling the U.S. Securities & Exchange Commission at 1-800-SEC-0330. The U.S. Securities & Exchange Commission also maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the U.S. Securities & Exchange Commission at <http://www.sec.gov>. The Company undertakes no obligation to publicly release the results of any revisions to these forward looking statements that may be made to reflect the events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.