

## **HepaLife's Cells for Artificial Liver Device Significantly Outperform Most-Widely Used Human Liver Cell Line.**

**HepaLife's cells mimic key liver responses, vital to artificial liver device: synthesize 100% of ammonia; express high levels of CYP-450 enzymes; only cells of their kind to produce substantial amounts of urea, in in-vitro system.**

**Boston, MA – April 10, 2007** - HepaLife Technologies, Inc. (OTCBB: HPLF) (FWB: HL1) (WKN: 500625) today announced that the Company's patented 'PICM-19' cells, under development for use in artificial liver support and in-vitro toxicology testing, have significantly outperformed the world's most widely used human liver cell line in important tests of liver-specific metabolic functions.

"These tests clearly demonstrate our PICM-19 cell line's superior performance in key, liver-specific functions such as the essential ability to help safely excrete ammonia, a highly toxic by-product which causes brain damage, coma, and even death," explained Mr. Frank Menzler, President and CEO of HepaLife Technologies, Inc. "This ability is vital to successfully replicating the human liver's function in an artificial liver device."

Scientists have long demonstrated that the HepaLife's patented PICM-19 cells have unique characteristics distinct from other cells, and are able to successfully mimic the human liver's response in several important ways. This functionality is crucial, since according to researchers, the most vital component in an artificial liver device is not the mechanical hardware, but rather, it is the biological cells inside the device which are responsible for truly replicating and performing the functions of the human liver.

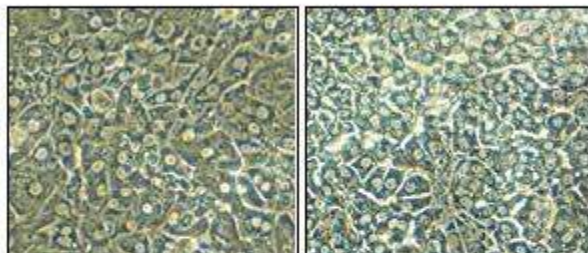
The production of urea is a highly-important function in the removal of toxic ammonia from the bloodstream, a unique capacity consistently demonstrated by HepaLife's PICM-19 liver cells. According to results from HepaLife's most recent lab tests, the Company's patented PICM-19 cells synthesized 100% of the ammonia present, nearly four times more than HepG2-C3A, the world's most widely-used human liver cell line today.

### **HepaLife's PICM-19 Cells Mimic Human Liver's Responses**

A key function of the human liver is the detoxification of ammonia, primarily through the synthesis of urea. Patients with acute liver failure have compromised ammonia detoxification capabilities which can result in brain damage. Likewise, patients with Urea-Cycle Disorders (UCD), genetic liver diseases found in children and adults, are unable to remove ammonia from the bloodstream, leading to brain damage, coma, and death.

In recent tests, HepaLife's PICM-19 cells successfully synthesized 100% of the ammonia present, almost four times more than HepG2-C3A. Most significantly, 36% of the ammonia was specifically synthesized into urea by the PICM-19 cells as compared to 0% of the HepG2-C3A. Notably, HepaLife's PICM-19 cell line is the only known, embryonic liver stem cell line of its

**HepaLife's PICM-19 Cells  
Remarkably Similar to Hepatocytes (Liver Cells)**



kind with the ability to produce substantial amounts of urea, in an in vitro system.

Results from the same tests also demonstrated that PICM-19 cells are able to express high levels of cytochrome P-450 enzymes, a key liver-related function in the detoxification of drugs and xenobiotics. In contrast, HepG2-C3A showed very low, or no detectable P450 activity at all.

In ongoing research, scientists have demonstrated that HepaLife's PICM-19 cells have unique characteristics distinct from other cells lines, and are able to mimic the human liver's response in several important ways. PICM-19 cells:

- Do not develop tumors or become cancerous, despite years in continuous culture
- Are the only cell line known to uniquely differentiate into hepatocytes (liver cells) and/or bile duct epithelium
- Express high levels of inducible P450 and GGT; important indicators of hepatocyte and bile duct functions, respectively
- Are able to remain in continuous culture, i.e., and undergo repeated passage indefinitely while retaining hepatic function and high density cell culture; these results demonstrate cell line strength and function
- Express proteins and mRNA that are unique to the liver
- Exhibit in vivo-like response of the in-vitro produced ductules to secretin and cAMP
- Detoxify high amounts of ammonia and synthesize urea and/or glutamine, vital functions of the human liver
- Exhibit in vivo-like responses to common drugs and toxins (e.g., acetaminophen, rifampicin)
- Tolerate room temperature for prolonged periods of time while retaining hepatic function which enables convenient handling and shipping.

“Our PICM-19 cell line sets us apart from anyone else, especially when considering how well we have outperformed the HepG2-C3A cells, a cell line that has been traditionally sought-out by researchers and industry for its liver-like functionality,” concluded Mr. Frank Menzler.

“Above all, these research results clearly underline the exciting potential of HepaLife’s patented PICM-19 cell technology platform, especially in artificial liver support.”

The need for an artificial liver device able to remove toxins and improve immediate and long-term survival results is more critical today than ever before. Limited treatment options, a low number of donor organs, the high price of transplants and follow up costs, a growing base of hepatitis, alcohol abuse, drug overdoses, and other factors that result in liver disease all clearly indicate a strong need for an artificial liver device.

The World Health Organization estimates that 10% of the world’s population has chronic liver disease, including 25 million Americans. In China alone, half a million die of the disease each year.

### **ABOUT HEPALIFE TECHNOLOGIES, INC.**

HepaLife Technologies, Inc. (OTCBB: HPLF - News; FWB: HL1) (WKN: 500625) is a

biotechnology company focused on the identification and development of cell-based technologies and products.

Current cell-based technologies under development by HepaLife include 1) the first-of-its-kind artificial liver device, 2) proprietary in-vitro toxicology and pre-clinical drug testing platforms, and 3) novel cell-culture based vaccine production to protect against the spread of influenza viruses among humans, including potentially the high pathogenicity H5N1 virus.

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

To receive future press releases via email, please visit:

<http://www.hepalife.com/alerts.php>

To view the full HTML text of this release, please visit:

<http://www.hepalife.com/20070410-1.html.php>

# # # #

## **Legal Notice Regarding Forward-Looking Statements**

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 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.