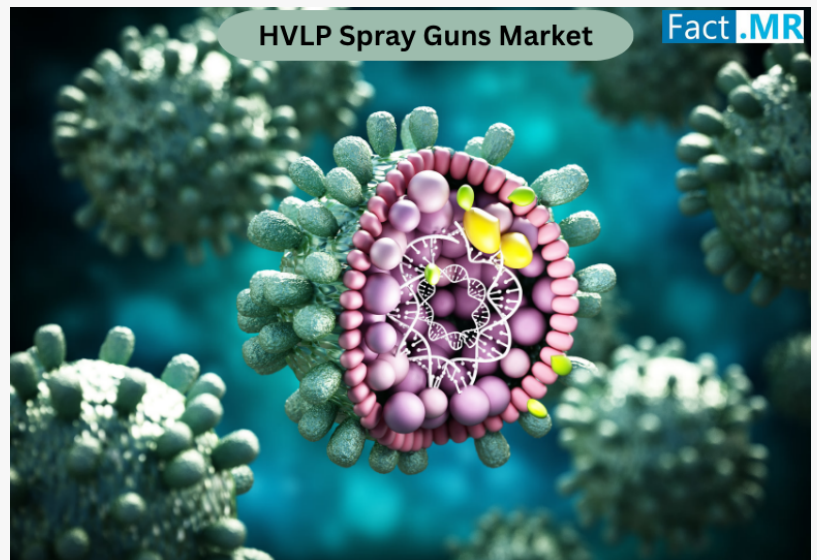


Primary Human Hepatocytes Market is Expected to Reach a Valuation of USD 316 Million by 2035, States Fact.MR

Primary Human Hepatocytes Market surges with rising demand for predictive in-vitro models: Drug screening and toxicity testing drive biotech innovation.

ROCKVILLE, MD, UNITED STATES, July 28, 2025 /EINPresswire.com/ -- According to Fact.MR, a market research and competitive intelligence provider, the [primary human hepatocytes market](#) was valued at USD 162 million in 2024 and is expected to grow at a CAGR of 6.2% during the forecast period of 2025 to 2035.



The primary human hepatocytes market is rapidly gaining traction with increased interest of pharmaceutical and bio-technology companies in more human-relevant and accurate in-vitro models of drug metabolism and drug toxicity. The cells present a better predictability than the animal models and with the growing anticipation of preclinical scientists and particularly in oncology and rare diseases, these cells are proving irreplaceable.

They help in ADME profiling, enzyme induction testing, disease modeling among others, making them valuable to both urban biotech hubs and contract research organizations to reduce the number of clinical trial attrition rates.

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The cryopreserved and fresh human hepatocytes anchors the market where cryopreserved variants gaining preference because of enhanced usability and predictable performance. Diversity of donors encompassing gender, ethnicity, and their metabolic profile allows the use of personalized medieval medicine and multi-population analysis.

Primary human hepatocytes allow the expression of critical cytochrome P450 enzymes and transporters, offering an in-vivo-like functionality of the liver. They have been incorporated into 3D cultures and microfluidic liver-on-chip model and into the increased interest in organoid technologies and ethically sourced bioassays. To achieve pharma sustainability frameworks, cleanroom handling, ethical compliance, and traceability of source are becoming increasingly significant.

Key Takeaways from Market Study

- The primary human hepatocytes market is projected to grow at 2% CAGR and reach USD 316 million by 2035
- The market created an absolute \$ opportunity of USD 142.7 million between 2025 to 2035
- North America is a prominent region that is estimated to hold a market share of 4% in 2035
- North America is expected to create an absolute \$ opportunity of USD 38.7 million

“Drug developers are shifting from animal-based toxicity models in favor of human hepatocyte platforms, not just for accuracy, but to accelerate time-to-market” says a Fact.MR analyst.

Leading Players Driving Innovation in the Primary Human Hepatocytes Market:

Key players in the primary human hepatocytes industry include ATCC, Thermo Fisher Scientific (Gibco), ScienCell Research Laboratories, Preci, LifeNet Health LifeSciences, iXCells Biotechnologies, Axol Bioscience, Primacyt, Fujifilm Cellular Dynamics, In Vitro ADMET Laboratories (IVAL), BeCytes Biotechnologies, and other notable companies.

Market Development

Major suppliers are focusing on the development of biobanks, cutting-edge cryopreservation practices, and AI-based donor-selection instruments. Access and scalability are being enhanced by collaborations between hepatocyte banks and CROs. For instance, in May 2025, BioIVT had launched HepaPredict 3D, a pre-plated hepatocyte spheroid model that is expected in-use in applications of high-throughput screening.

Firms are investing in traceable and ethical tissue sourcing and GMP level production lines in order to address regulatory requirements. Age, ethnicity, or thereof disease-customized hepatocyte panels will also become one of the differentiators and mostly to the companies researching NASH and hepatocellular carcinoma.

For example, In June 2025, Lonza expanded its hepatocyte production facility in Maryland, introducing AI-integrated inventory systems to streamline donor matching and cryostorage for pharmaceutical partners.

Primary Human Hepatocytes Industry News:

In June 2025, RenJi Hospital in China initiated a Phase I clinical trial focused on evaluating the safety of intraperitoneal administration of microencapsulated, proliferating human hepatocytes (derived from PHHs) in adult patients suffering from liver failure. Earlier,

in March 2025, ATCC launched HepatoXcell™, a premium cryopreserved PHH product designed to support liver disease research, drug metabolism studies, and toxicology testing. The product release was accompanied by comprehensive protocols for cell isolation and culture.

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More Valuable Insights on Offer

Fact.MR, in its new offering, presents an unbiased analysis of the primary human hepatocytes market, presenting historical data for 2020 to 2024 and forecast statistics for 2025 to 2035.

The primary human hepatocytes market is segmented by product type (Cryopreserved Hepatocytes, Fresh [Isolated] Hepatocytes, Suspension Format, Plateable Hepatocytes, 3D Spheroid/Co-culture), by source (Commercial Donor-Derived, Cadaveric Donor-Derived, iPSC-Derived Hepatocytes), by application (Drug Metabolism & Toxicity Testing, Disease Modeling, Regenerative Medicine & Transplantation, Viral Hepatitis Research, Gene Therapy & Enzyme Induction Studies), and by end user (Pharmaceutical & Biotech Companies, Contract Research Organizations [CROs], Academic & Research Institutes, Hospitals & Clinical Settings) across major regions of the World (North America, Latin America, Western Europe, Eastern Europe, East Asia, North America, and Middle East & Africa).

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The [humanized mice model market](#) size is expected to reach US\$ 101.6 million in 2024. The market is projected to surge at a CAGR of 6.0%, reaching a valuation of US\$ 182.0 million in 2034.

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