Liver is a vital organ that performs several important bodily functions including bile production for digestion, protein production, synthesis of blood clotting factors, storage of glucose (sugar) in the form glycogen, and detoxification. Also, the liver cells have a remarkable ability to regenerate themselves after any damage. Due to this unique capability, the liver tissues have fascinated the researchers. True understanding of molecular and cellular connectivity and functions of the liver tissues in an in-vivo as well as in-vitro setting is very important from the viewpoint of discovery science and clinical application. Development of liver models that can provide a virtual ecosystem that mimics the molecular processes of a liver factory can help understand molecular interactions to network dynamics and whole organ functions. These advanced liver models are mini-organs or organoids that are expected to replicate human liver physiology, anatomy, and functions from molecular layer upward. The formation of these living models is a fairly new area of science that has the potential to replace animal models. The human liver models offer several advantages over animal models that are not always accurate and pose ethical issues. The human liver models or organoids have been used to screen new drugs for liver toxicity. These models are also being deeply studied to build a functional model of human liver development. The process of making a human liver model starts with a fetal liver progenitor cell, an immature cell that transforms into a specialized liver cell. The fetal liver progenitor cell is allowed to self-assemble in a small disc. These discs are composed of ferret liver cells that are pre-processed to remove all cells of the ferret. The resultant mini-organ models the actual human liver development. These models have been observed to generate hepatocytes, the basic functional cells of the liver, which is expected to produce the functional bioengineered liver tissues for transplantation into patients in the near future. North American segment accounted for the largest share of the market in 2018. The human liver market for North America is driven by the presence of a well-established life sciences industry, growing awareness about the organoids technology, increasing government funding, growing incidence of NAFLD, and unavailability of livers for transplantation, increasing investments on research, rising focus on tissue culture-based clinical diagnostics, and the availability of skilled professionals.

The global Human Liver Models market was valued at xx million US$ in 2018 and will reach xx million US$ by the end of 2025, growing at a CAGR of xx% during 2019-2025. This report focuses on Human Liver Models volume and value at global level, regional level and company level. From a global perspective, this report represents overall Human Liver Models market size by analyzing historical data and future prospect. Regionally, this report categorizes the production, apparent consumption, export and import of Human Liver Models in North America, Europe, China, Japan, Southeast Asia and India. For each manufacturer covered, this report analyzes their Human Liver Models manufacturing sites, capacity, production, ex-factory price, revenue and market share in global market.

The following manufacturers are covered:
Emulate
Ascendance Bio
InSphero
CN Bio
Organovo
Cyfuse Biomedical
Mimetas...

Segment by Regions
North America
Europe
China
Japan
Southeast Asia
India

Segment by Type
Liver Organoids
Liver-on-a-chip
2D Models
3D Bioprinting
Others

Segment by Application
Drug Discovery
Education
Others

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