CLAIMS

WHAT IS CLAIMED IS:

1. An isolated induced hepatocyte derived from a trophoblast stem cell, wherein the hepatocyte expresses one or more biomarkers selected from the group consisting of human leukocyte antigen G (HLA-G), transforming growth factor beta 1 (TGFβ1), cytochrome P450 family 1 subfamily A polypeptide 1 (CYP1A1), C-X-C chemokine receptor type 4 (CXCR4), bile salt export pump (BSEP), forkhead box protein A2 (FOXA2), hematopoietically expressed homeobox (HHEX), cytochrome P450 7A1 (CYP7A1), serpin peptidase inhibitor clade A (alpha-1 antiproteinase, antitrypsin) member 1 (SERPINA1), ATP-binding cassette sub-family C (ABCC2), CCAAT-enhancer-binding protein beta (C/EBPβ), and hepatocyte nuclear factor 1-alpha (HNF1α).
2. The hepatocyte of claim 1, wherein the hepatocyte recruits $CD4^{+}Foxp3^{+}$ Treg cells.
3. The hepatocyte of claim 1, wherein the hepatocytes form tissue of a 3-dimensional structure.
4. The hepatocyte of claim 1, wherein the hepatocytes cluster or aggregate.
5. The hepatocyte of claim 1, wherein the hepatocytes form a crescent cell mass.
6. The hepatocyte of claim 1 or 2, wherein the hepatocyte expresses one or more markers selected from the group consisting of C-kit, CK19, CK18, ALB, α-AFP, betatrophin, ADH1, APOF, CPS1, GATA4, CYP1A1, CYP2B6, ASGR1, MRP2, Cx32, G6PC, HNF4α, SOX17, TTR, TAT, and any combination thereof.
7. A composition comprising the isolated hepatocyte of claim 1.
8. A pharmaceutical composition comprising the isolated hepatocyte of claim 1.
9. Use of the isolated hepatocyte of claim 1 in the manufacture of a medicament for the treatment of a liver-associated disease or disorder in a subject.
10. The use of claim 9, wherein the medicament comprises the isolated hepatocyte of claim 1 in a pharmaceutically acceptable carrier.
11. The use of claim 10, wherein the pharmaceutically acceptable carrier comprises a phosphate buffer saline.
12. The use of claim 11, wherein the medicament is formulated for administration as an intravenous injection.
13. The use of claim 9, wherein the disease or disorder is liver failure.
14. Use of a composition comprising the hepatocyte of claim 1 in the manufacture of a medicament for liver regeneration.

15. The use of claim 14, wherein the liver regeneration is an *ex vivo* liver regeneration.