CLAIMS

1. An isolated cell population comprising adult liver progenitor cells wherein said adult liver progenitor cells are measured:
   (a) positive for α-smooth muscle actin (ASMA), albumin (ALB), and CD140b;
   (b) negative for Sushi domain containing protein 2 (SUSD2) and Cytokeratin-19 (CK-19),
   characterized in that said cells are further measured positive for MMP1.

2. The isolated cell population according to Claim 1 wherein said cells are further measured positive for
   (a) At least one hepatic marker selected from albumin, HNF-3B, HNF-4, CYP1A2, CYP2C9, CYP2E1 and CYP3A4;
   (b) At least one mesenchymal marker selected from Vimentin, CD90, CD73, CD44, and CD29;
   (c) At least one liver-specific activity selected from urea secretion, bilirubin conjugation, alpha-1-antitrypsin secretion, and CYP3A4 activity;
   (d) At least one marker selected from ATP2B4, ITGA3, TFRC, SLC3A2, CD59, ITGB5, CD151, ICAM1, ANPEP, CD46, and CD81; and
   (e) At least one marker selected from ITGA11, FMOD, KCND2, CCL11, ASPN, KCNK2, and HMCN1.

3. The isolated cell population of Claims 1 or 2 characterized in that said cells are measured negative for:
   (a) CD271;
   (b) At least one marker selected from ITGAM, ITGAX, IL1R2, CDH5, and NCAM1; and
   (c) At least one marker selected from HP, CP, RBP4, APOB, LBP, ORM1, CD24, CPM, and APOC1.

4. The isolated cell population according to any one of the preceding Claims 1 to 3, wherein said cells are further measured positive for at least one liver-specific activity selected from sulfotransferase activity, tryptophan-2,3-dioxygenase activity, liver carboxylase activity, ammonia metabolism, and glycogen storage.

5. The isolated cell population according to any one of the preceding Claims 1 to 4 comprising at least 60% or between 60% and 99% or between 70% and 90% of adult liver progenitor cells.

6. The isolated cell population of Claim 5 wherein said cell population is differentiated into cells presenting liver-specific activities.

7. The isolated cell population of any one of the preceding Claims wherein said cell population is modified by means of one or more chemical agents, cell culture medium, growth factors, and/or nucleic acid vectors.

8. A biological material isolated from the isolated cell population of any one of the Claims from 1 to 7, wherein the biological material is a conditioned cell culture media, a protein extract, or a membrane vesicle.

9. A composition comprising the isolated cell population according to any one of the Claims 1 to 7, or comprising the biological material of claim 8.

10. The isolated cell population of any one of Claims 1 to 7, a biological material of Claim 8, or the composition of Claim 9 for use in treating a liver disease.

11. The use of Claim 10 wherein the liver disease is an inborn error of liver metabolism, an inherited Blood Coagulation Disorder, progressive familial intrahepatic cholestasis type 1 / 2 / 3, alpha 1-Antitrypsin Deficiency, defect of liver cell transporters, Porphyria, fatty liver or other fibrotic liver disease, primary biliary cirrhosis, sclerosing cholangitis, liver degenerative disease, or acute or chronic liver failure.

12. A pharmaceutical composition comprising a therapeutically effective amount of the isolated cell population according to any one of the Claims 1 to 7 for use in treating a condition that may benefit from their engraftment in a human tissue.

13. A pharmaceutical composition of Claim 12 wherein said composition suspension of the isolated cell population is suitable for intrahepatic, intrasplenic, or intraveneous administration.

14. A kit comprising an isolated cell population of any one of Claims 1 to 7, a composition of Claim 9, or a biological material of Claim 8.

15. The kit of claim 14 wherein said kit further comprises one or more vials containing said isolated cell population, said composition, or said biological material and one or more of the following elements: devices, disposable materials, solutions, chemical products, biological products, and/or instructions for using elements of said kit.