CLAIMS

1. A composition comprising human adult liver-derived progenitor or stem cells characterized in that at least 60% of said progenitor or stem cells express cell surface marker HLA-E~~,~~ and that the HLA-E expressing cells have an HLA-E relative median fluorescence intensity (rMFI) of at least 6.5 as measured by flow cytometry and using an anti- human HLA-E antibody.

2. Composition according to claim 1, wherein at least 65%, more preferably at least 70%, more preferably at least 75%, more preferably at least 80%, more preferably at least 85%, more preferably at least 90%, more preferably at least 95% of said progenitor or stem cells express cell surface marker HLA-E.

~~3. Composition according to any of the previous claims, wherein the HLA-E expressing cells have an HLA-E relative median fluorescence intensity (rMFI) of at least 6.5 as measured by flow cytometry and using an anti- human HLA-E antibody.~~

~~4.~~3. Composition according to any of the previous claims, wherein the HLA-E expressing cells exhibit an HLA-E relative medium fluorescence intensity (rMFI) of at least 7, more preferably at least 8, more preferably at least 9, more preferably at least 10 as measured by flow cytometry.

~~5.~~4. Composition according to any of the previous claims, wherein said human adult- liver-derived progenitor or stem cells are positive for at least one mesenchymal marker selected from Vimentin, CD13, CD90, CD73, CD44, CD29, α-smooth muscle actin (ASMA) and/or CD140b, and said composition optionally comprises secreted HLA-G.

~~6. Composition according to any of the previous claims, wherein said composition comprises secreted HLA-G.~~

~~7.~~5. The composition according to any of the previous claims, characterized in that said composition further comprises a pharmaceutically acceptable carrier.

~~8. An~~A cell population comprising isolated liver progenitor ~~cell~~cells or stem ~~cell which is HLA-E positive.~~

~~9. The isolated liver progenitor cell or stem cell according to claim 8,~~cells wherein ~~said cell is a human liver cell,~~at least 60%, preferably ~~an adult human liver cell.~~

~~10.~~6. ~~The isolated liver progenitor cell or stem cell according to any~~at least 65%, preferably at least 70%, more preferably at least 75%, more preferably at least 80%, more preferably at least 85%, more preferably at least 90%, more preferably at least 95% of ~~the previous claims,~~said progenitor or stem cells express cell surface marker HLA-E, and wherein the HLA-E expressing cells have an HLA-E relative median fluorescence intensity (rMFI) of at least 6.5 as measured by flow cytometry and using an anti-human HLA-E antibody.

7. ~~The~~ Cell population according to claim 6, wherein said isolated liver progenitor ~~cell~~cells or stem ~~cell~~cells are human liver cells, preferably adult human liver cells.

~~11.~~8. Cell population according to ~~any one of the previous claims~~claim 6 or 7, characterized in that said ~~cell is~~HLA-E expressing cells are preconditioned with one or more cytokines, said cytokines are preferably selected from IFNγ, TNFα, IL-1β, IL-10 and any combinations thereof.

~~12.~~9. ~~The isolated liver progenitor cell or stem cell~~Cell population according to claim ~~11~~8, characterized in that said ~~cell has~~cells have elevated levels of HLA-E expression as compared to a basal HLA-E expression in a non-preconditioned liver progenitor or stem cell.

~~13. The isolated liver progenitor cell or stem cell according to claims 11 or 12, characterized in that said cytokines are selected from IFNγ, TNFα, IL-1β, IL-10 and any combinations thereof.~~

~~14. The isolated liver progenitor cell or stem cell~~Cell population according to any one of claims ~~11~~8 to ~~13~~9, characterized in that said cytokines are added to ~~the~~a cell medium of said ~~cell~~cells at a total concentration of between 5 ng/ml and 400 ng/ml~~.~~

~~15.~~10. ~~The isolated liver progenitor cell or stem cell according to any one of claims 11 to 14, characterized in~~ and/or that the individual cytokine concentration in the cell medium is between 5 ng/ml and 100 ng/ml.

~~16. The isolated liver progenitor cell or stem cell~~Cell population according to any one of claims ~~11~~8 to ~~15~~10, characterized in that said cytokines are at least IFNγ and TNFα~~.~~

~~17.~~11. ~~The isolated liver progenitor cell or stem cell according to claim 16, wherein said cytokines further~~, and optionally comprise IL-1β.

~~18.~~12. ~~The isolated liver progenitor cell or stem cell~~Cell population according to any one of claims ~~11~~8 to ~~17~~11, characterized in that said ~~cell is~~cells are preconditioned for ~~1 hour to 72 hours, more preferably 12~~24 to 60 hours.

~~19.~~13. ~~The isolated liver progenitor cell or stem cell~~Cell population according to any one of the previous claims ~~11~~8 to ~~18~~12, characterized in that said ~~cell is~~cells are further positive for HLA-G.

~~20.~~14. ~~The isolated liver progenitor cell or stem cell~~Cell population according to any one of the previous claims ~~11~~8 to ~~19~~13, characterized in that said ~~cell~~cells further ~~has~~have elevated levels of PGE2 secretion, as compared to a basal PGE2 secretion in a non-preconditioned liver progenitor or stem cell; and/or elevated levels of IDO enzymatic activity, as compared to a basal IDO enzymatic activity in a non-preconditioned liver progenitor or stem cell.

~~21.~~15. ~~A~~ A composition comprising the cell population ~~comprising isolated liver progenitor cells or stem cells~~ according to any ~~one~~ of ~~the previous~~ claims ~~8~~6 to ~~20~~14.

~~22. Cell population according to claim 21 wherein at least 65%, at least 70%, more preferably at least 75%, more preferably at least 80%, more preferably at least 85%, more preferably at least 90%, more preferably at least 95% of said progenitor or stem cells express cell surface marker HLA-E.~~

~~23.~~16. ~~A~~The composition ~~comprising the cells~~ according to any one of ~~the~~ claims ~~8~~1 to ~~20~~5 or 15, or the cell population according to any of claims 6 to ~~claim 21 or 22.~~14 for use in immunotherapy.

~~24.~~17. The composition according to any one of claims 1 to ~~7~~5 or ~~23,~~15, or the ~~isolated liver progenitor cells~~cell population according to any ~~one~~ of claims ~~8~~6 to ~~20 or the cell population according to claim 21 or 22 for use in immunotherapy and/or~~14 for use in the treatment of disorders with unwanted immune response.

~~25.~~18. The composition according to any one of claims 1 to ~~7~~5 or ~~23, the isolated liver progenitor cells according to any one of claims 8 to 20~~15, or the cell population according to ~~claim 21 or 22~~any of claims 6 to 14 for use in the treatment of fibrotic disorders.

~~26.~~ The composition according to any one of claims 1 to ~~7, the isolated liver progenitor cells according to any one of claims 8 to 20~~5 or 15, or the cell population according to ~~claim 21 or 22~~any of claims 6 to 14 for use in the treatment of liver diseases~~.~~

~~27.The composition, the isolated cells or the cell population for use according to claim 26, characterized in that~~, wherein said liver disease, preferably is a fibro-inflammatory chronic liver disease~~.~~

~~28.~~19. ~~The composition, the isolated cells or the cell population for use according to claim 26 or 27, characterized in that said~~, or is a liver disease ~~is~~ selected from the list consisting of Alagille syndrome, alcoholic liver disease (alcohol-induced cirrhosis), ~~a1~~alpha1-antitrypsin deficiency (all phenotypes), hyperlipidemias and other lipid metabolism disorders, autoimmune hepatitis, Budd-Chiari syndrome, biliary atresia, progressive familial cholestasis type I, II and III, cancer of the liver, Caroli Disease, Crigler-Najjar syndrome, fructosemia, galactosemia, carbohydrate deficient glycosylation defects, other carbohydrate metabolism disorders, Refsum disease and other peroxysomal diseases, Niemann Pick disease, Wolman disease and other lysosomal disorders, tyrosinemia, triple H, and other amino acid metabolic disorders, Dubin-Johnson syndrome, fatty liver diseases including Nonalcoholic fatty liver disease (NAFLD) and Nonalcoholic steatohepatitis (NASH), chronic liver failure, Acute-on-Chronic Liver Failure (ACLF), Gilbert Syndrome, Glycogen Storage Disease I and III, hemochromatosis, hepatitis A-G, porphyria, primary biliary cirrhosis, sclerosing cholangitis, tyrosinemia, clotting factor deficiencies, hemophilia B, phenylketonuria, Wilson's Disease, fulminant liver failure, post hepatectomy liver failure, mitochondrial respiratory chain diseases.

~~29.~~20. The composition according to any one of claims 1 ~~to7~~to 5 or ~~23, the isolated liver progenitor cells according to any one of claims 8 to20~~15, or the cell population according to ~~claim 21 or 22~~any of claims 6 to 14 for use in cell transplantation, preferably allogeneic transplantation.

~~30.~~A method of obtaining HLA-E positive liver progenitor cells or stem cells, said method comprises the step of adding ~~one or more~~ cytokines for 24 to ~~the~~60 hours to a cell medium of a culture of liver progenitor or stem cells~~.~~

~~31.The method according to claim 30, characterized in that~~, wherein the cytokines are selected from the group consisting of IFNγ, TNFα, IL-1β, IL-10 and ~~any combinations thereof.~~

~~32.~~21. ~~The method according to claim 30 or 31, characterized in that~~are at least IFNγ and TNFα and optionally IL-1β, wherein said cytokines are ~~added~~ at a total concentration of between 5 ng/ml and 400 ng/ml and/or wherein the individual cytokine concentration is between 5 and 200 ng/ml.

~~33. The method according to any one of claims 30 to 32, characterized in that said cytokines are at least IFNγ and TNFα and optionally IL-1β.~~