SUPPLEMENTARY FIGURES

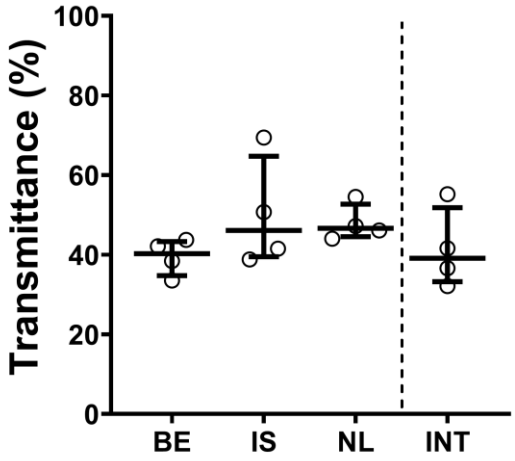


**Figure S1 Transmittance of hPL.** Absorbance of raw hPL was measured at 680nm and calculated to transmittance. Individual data are shown and error bars represent median with interquartile range (n=4). Two-letter country code is used for Belgium (BE), Iceland (IS) and the Netherlands (NL). The international batch is labeled INT.

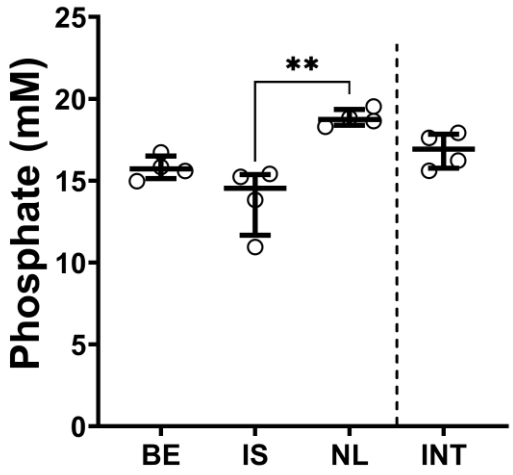


**Figure S2 Phosphate concentration.** A colorimetric assay kit was used to quantify phosphate concentration in hPL batches. Individual data are shown and error bars represent median with interquartile range (n=4), **P<0.01. Two-letter country code is used for Belgium (BE), Iceland (IS) and the Netherlands (NL). The international batch is labeled INT.

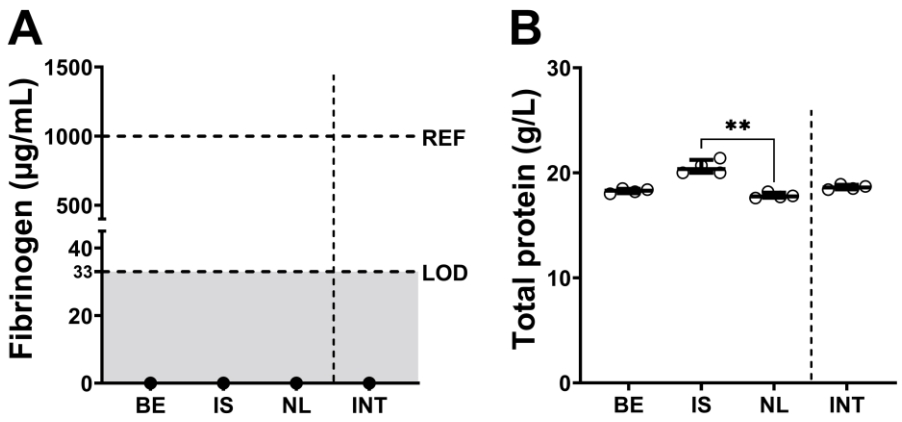


**Figure S3 Fibrinogen and total protein concentration.** (A) Fibrinogen was quantified using ELISA and was always below the detection limit of 33 µg/mL (*lower horizontal dotted line*). The reference fibrinogen concentration in PC concentrates typically is around 1000 µg/mL (*upper horizontal dotted line*). (B) A colorimetric assay kit was used to measure total protein concentration in hPL batches. Vertical dotted lines separate national and international batches for clarity. Individual data are shown and error bars represent median with interquartile range (n=4), **P<0.01. Two-letter country code is used for Belgium (BE), Iceland (IS) and the Netherlands (NL). The international batch is labeled INT.

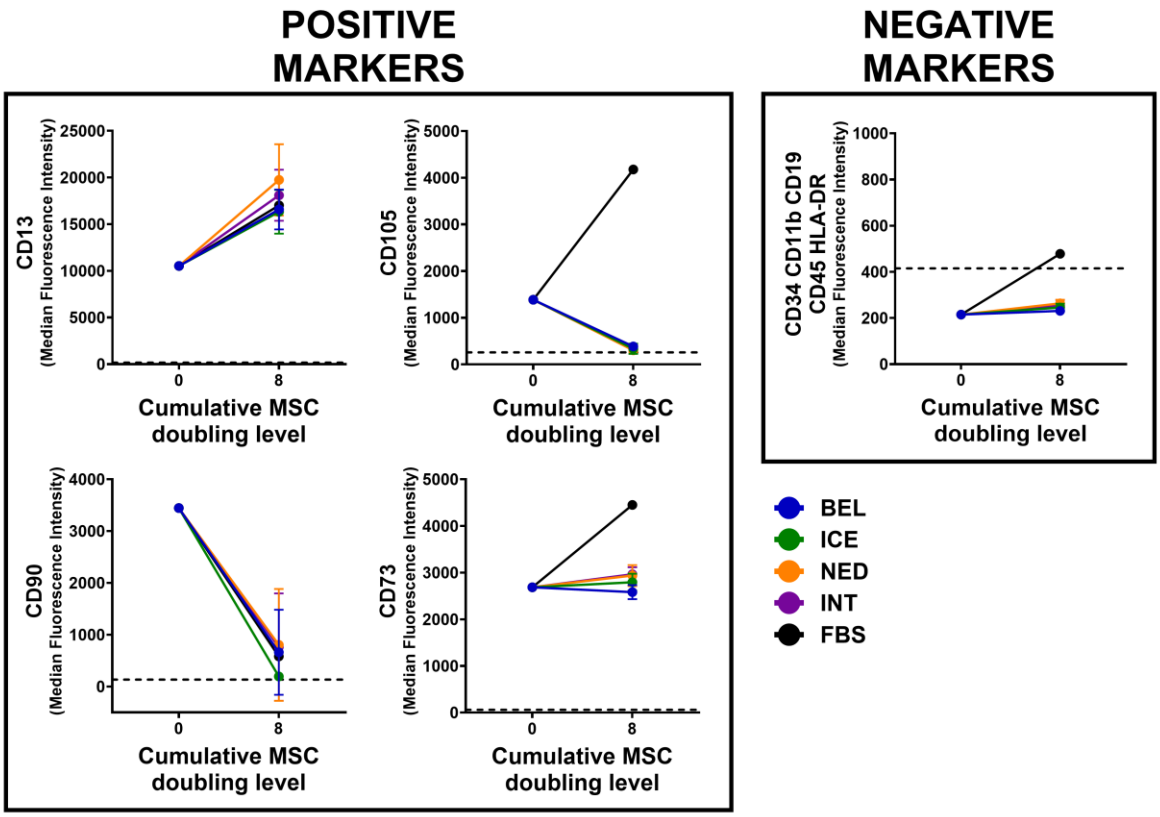


**Figure S4 Median fluorescence intensity of MSC after culture in hPL.** Phenotyping of MSC was performed at cPD8 in flow cytometry, median fluorescence intensity is shown. Control conditions were MSC cultured in FBS-containing medium (*black*) and MSC cultured in FBS-containing medium stained with isotype control antibodies for negative markers and fluorescence minus one for positive markers (*black horizontal dotted line*). Error bars represent mean with standard deviation (n=4). Two-letter country code is used for Belgium (BE), Iceland (IS) and the Netherlands (NL). The international batch is labeled INT.

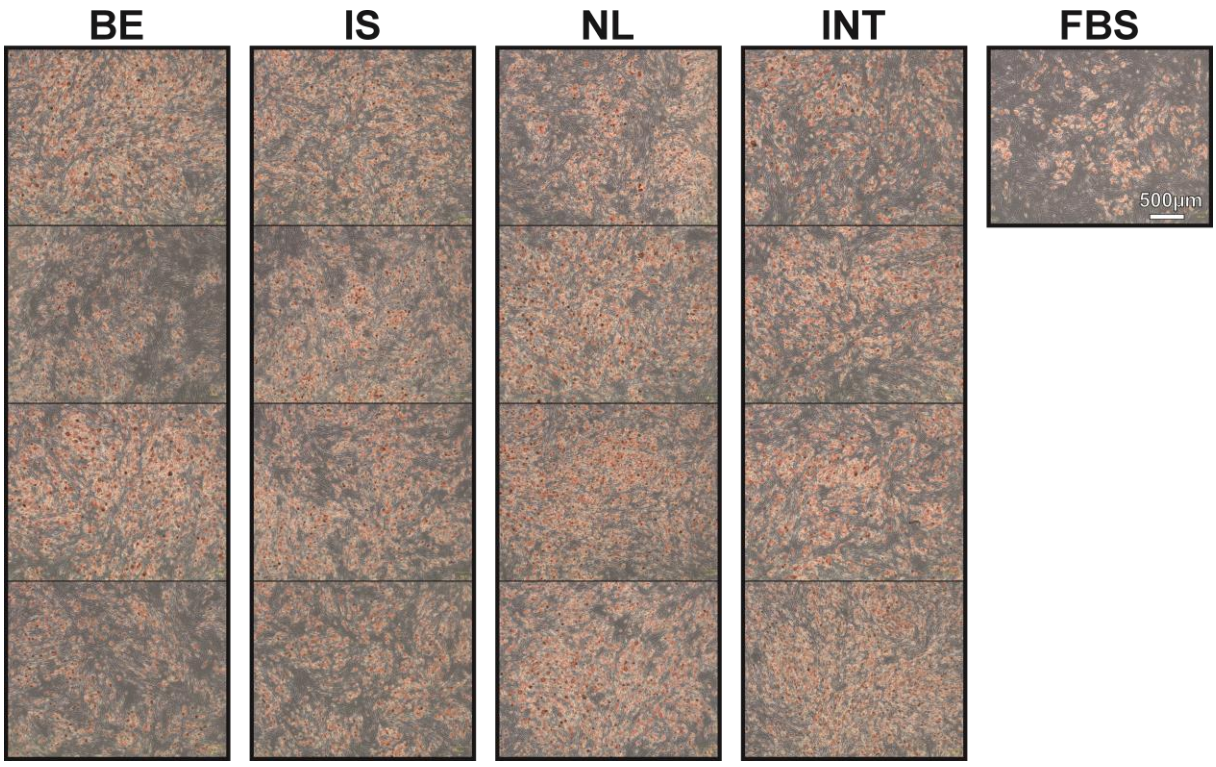


**Figure S5 Adipogenic differentiation of all hPL batches.** MSC were cultured in presence of either hPL or FBS and subsequently differentiated in identical differentiation media. Adipogenic differentiation was analyzed using Oil Red O staining. The individual repeats are shown at end point. Scale bar is 500µm, total magnification 40x.

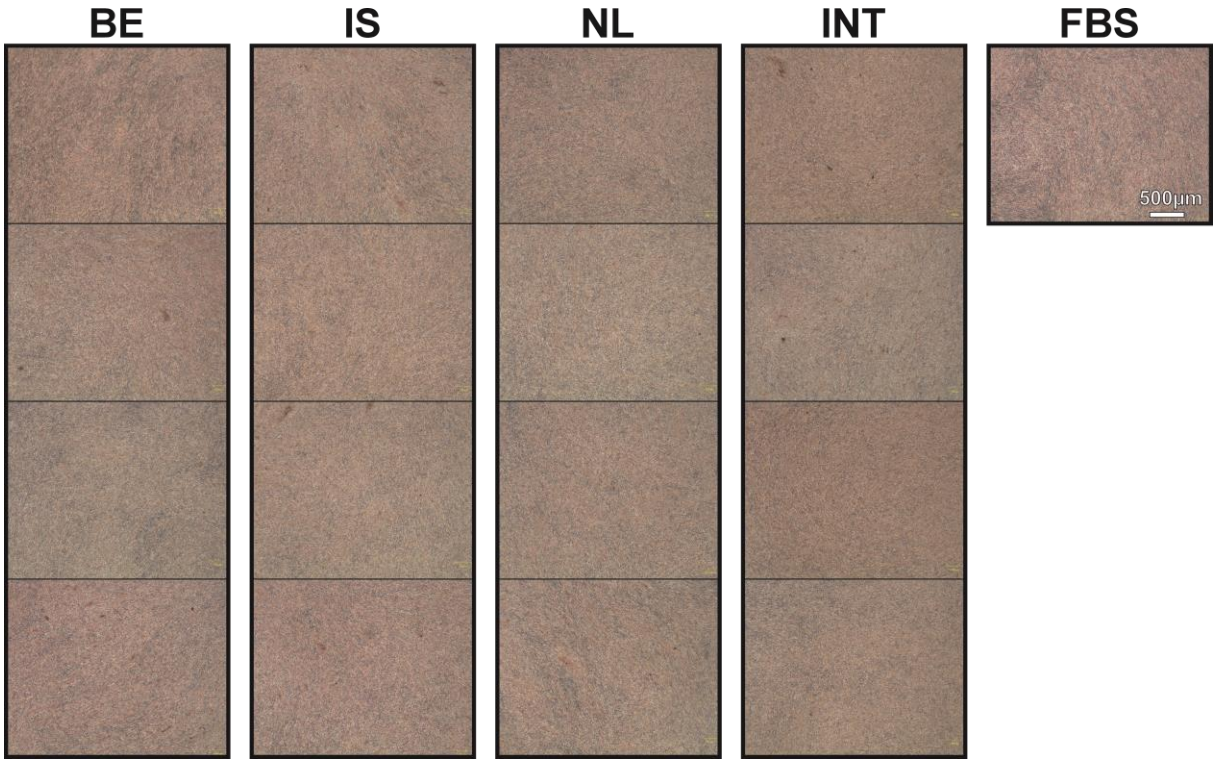


**Figure S6 Osteogenic differentiation of all hPL batches.** MSC were cultured in presence of either hPL or FBS and subsequently differentiated in identical differentiation media. The individual repeats are shown at end point. Osteogenic differentiation was analyzed by Von Kossa staining. Scale bar is 500µm, total magnification 40x.

| BELGIUM | | | | | | | | ICELAND | | | | | | | | THE NETHERLANDS | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PC** | **Blood type** | **Swirl (Y/N)** | **PC age (day)** | **PLT count ($10^6$/µL)** | **$V_{PC}$ (mL)** | **$V_{hPL}$ (mL)** | **Yield (%)** | **PC** | **Blood type** | **Swirl (Y/N)** | **PC age (day)** | **PLT count ($10^6$/µL)** | **$V_{PC}$ (mL)** | **$V_{hPL}$ (mL)** | **Yield (%)** | **PC** | **Blood type** | **Swirl (Y/N)** | **PC age (day)** | **PLT count ($10^6$/µL)** | **$V_{PC}$ (mL)** | **$V_{hPL}$ (mL)** | **Yield (%)** |
| **1** | A- | Y | 8 | 0.690 | 310 | 238 | 77% | **1** | O+ | Y | 6 | 0.964 | 183 | 118 | 64% | **1** | A+ | Y | 8 | 0.671 | 284 | 221 | 78% |
| **2** | O+ | Y | 7 | 1.284 | 296 | 238 | 81% | **2** | O+ | Y | 6 | 0.936 | 188 | 109 | 58% | **2** | B+ | Y | 8 | 0.676 | 294 | 234 | 80% |
| **3** | A+ | Y | 7 | 0.736 | 287 | 209 | 73% | **3** | O+ | Y | 8 | 1.120 | 178 | 104 | 58% | **3** | A+ | Y | 8 | 0.970 | 275 | 228 | 83% |
| **4** | A+ | Y | 7 | 0.928 | 307 | 237 | 77% | **4** | O+ | Y | 8 | 1.182 | 186 | 104 | 56% | **4** | A+ | Y | 8 | 0.926 | 292 | 253 | 87% |
| **5** | A- | Y | 8 | 1.048 | 264 | 202 | 77% | **5** | A+ | Y | 8 | 1.166 | 200 | 111 | 56% | **5** | A+ | Y | 8 | 0.630 | 273 | 224 | 82% |
| **6** | A+ | Y | 7 | 1.104 | 279 | 212 | 76% | **6** | O+ | Y | 8 | 1.160 | 186 | 125 | 67% | **6** | A+ | Y | 8 | 0.943 | 290 | 234 | 81% |
| **7** | O- | Y | 9 | 1.340 | 321 | 234 | 73% | **7** | O+ | Y | 8 | 1.146 | 182 | 105 | 58% | **7** | A+ | Y | 8 | 0.812 | 296 | 254 | 86% |
| **8** | A+ | Y | 9 | 0.948 | 314 | 229 | 73% | **8** | A+ | Y | 8 | 1.202 | 189 | 109 | 58% | **8** | A+ | Y | 8 | 0.835 | 275 | 238 | 87% |
| **9** | O- | Y | 9 | 0.928 | 319 | 200 | 63% | **9** | O- | Y | 8 | 1.244 | 171 | 63 | 37% | **9** | A+ | Y | 8 | 0.864 | 270 | 223 | 83% |
| **10** | A- | Y | 8 | 0.948 | 304 | 230 | 76% | **10** | O+ | Y | 8 | 1.604 | 187 | 144 | 77% | **10** | A+ | Y | 8 | 0.929 | 285 | 253 | 89% |
| **11** | A- | Y | 8 | 0.940 | 317 | 225 | 71% | **11** | O- | Y | 8 | 1.182 | 186 | 75 | 40% | **11** | B+ | Y | 8 | 0.813 | 289 | 244 | 84% |
| **12** | A- | Y | 8 | 1.144 | 301 | 213 | 71% | **12** | O+ | Y | 8 | 1.231 | 187 | 135 | 72% | **12** | B+ | Y | 8 | 0.715 | 296 | 241 | 82% |
| **13** | A+ | Y | 8 | 0.920 | 322 | 243 | 75% | **13** | O+ | Y | 8 | 1.196 | 195 | 81 | 42% | **13** | A+ | Y | 8 | 0.833 | 291 | 246 | 85% |
| **14** | A+ | Y | 8 | 1.520 | 297 | 200 | 67% | **14** | O+ | Y | 8 | 1.163 | 191 | 137 | 72% | **14** | A+ | Y | 8 | 0.918 | 289 | 243 | 84% |
| **15** | O+ | Y | 7 | 0.900 | 333 | 225 | 68% | **15** | O+ | Y | 8 | 1.290 | 194 | 129 | 67% | **15** | A+ | Y | 8 | 0.869 | 293 | 247 | 84% |
| **16** | O+ | Y | 7 | 0.836 | 292 | 223 | 77% | **16** | A+ | Y | 8 | 1.350 | 189 | 122 | 64% | **16** | A+ | Y | 8 | 0.994 | 292 | 256 | 88% |
| **17** | O- | Y | 7 | 0.880 | 301 | 214 | 71% | **17** | A+ | Y | 8 | 1.409 | 188 | 124 | 66% | **17** | A+ | Y | 8 | 0.893 | 275 | 234 | 85% |
| **18** | A- | Y | 7 | 0.856 | 324 | 245 | 76% | **18** | O+ | Y | 8 | 1.563 | 188 | 106 | 57% | **18** | A+ | Y | 8 | 0.963 | 281 | 234 | 83% |
| **19** | O- | Y | 7 | 0.984 | 295 | 216 | 73% | **19** | O- | Y | 8 | 1.169 | 190 | 106 | 56% | **19** | A+ | Y | 8 | 0.905 | 282 | 238 | 84% |
| **20** | O- | Y | 7 | 0.980 | 302 | 239 | 79% | **20** | O+ | Y | 8 | 1.243 | 185 | 109 | 59% | **20** | A+ | Y | 8 | 0.912 | 278 | 233 | 84% |
| **21** | O- | Y | 7 | 0.832 | 337 | 231 | 69% | **21** | O+ | Y | 8 | 1.256 | 188 | 107 | 57% | **21** | A+ | Y | 8 | 0.773 | 292 | 252 | 86% |
| **22** | O+ | Y | 9 | 0.968 | 319 | 217 | 68% | **22** | O+ | Y | 8 | 1.232 | 182 | 116 | 64% | **22** | A+ | Y | 8 | 0.815 | 272 | 229 | 84% |
| **23** | O+ | Y | 9 | 1.060 | 313 | 221 | 71% | **23** | O+ | Y | 8 | 1.247 | 189 | 132 | 70% | **23** | A+ | Y | 8 | 0.880 | 305 | 254 | 83% |
| **24** | O+ | Y | 9 | 0.904 | 313 | 216 | 69% | **24** | O+ | Y | 8 | 1.516 | 186 | 82 | 44% | **24** | A+ | Y | 8 | 1.000 | 292 | 245 | 84% |
| **x̄** | | | **7.8** | **0.987** | **307** | **223** | **73%** | **x̄** | | | **7.8** | **1.240** | **187** | **111** | **59%** | **x̄** | | | **8.0** | **0.856** | **286** | **240** | **84%** |
| **SD** | | | **0.8** | **0.183** | **17** | **13** | **4%** | **SD** | | | **0.6** | **0.156** | **5** | **20** | **10%** | **SD** | | | **0.0** | **0.101** | **9** | **11** | **2%** |

**Table S1 Details of source platelet concentrates and final hPL.** (Y/N) = *Yes* or *No*; PC = platelet concentrate; x̄ = mean; SD = standard deviation

| | |
|---|---|
| hPL | Human Platelet Lysate |
| FBS | Fetal Bovine Serum |
| MSC | Mesenchymal Stem Cell |
| PC | Platelet Concentrate |
| BC | Buffy Coat |
| PAS | Platelet Additive Solution |
| PBS | Phosphate Buffered Saline |
| MFI | Median Fluorescence Intensity |
| HUVEC | Human Umbilical Vein Endothelial Cell |
| EDTA | Ethylenediamine Tetraacetic Acid |
| cPD | Cumulative Population Doublings |
| ISCT | International Society for Cell & Gene Therapy |
| FMO | Fluorescence Minus One |
| SD | Standard Deviation |

**Table S2 List of Abbreviations**