

Title (en)

PROCESS FOR SEPARATING BLOOD CELL-CONTAINING LIQUID SUSPENSIONS BY FILTRATION.

Title (de)

VERFAHREN ZUM TRENNEN VON BLUTZELLEN ENTHALTENDEN FLÜSSIGEN SUSPENSIONEN DURCH FILTRIERUNG.

Title (fr)

PROCEDE DE SEPARATION DE SUSPENSIONS LIQUIDES CONTENANT DES GLOBULES SANGUINS PAR FILTRATION.

Publication

EP 0016014 A4 19800929 (EN)

Application

EP 79900587 A 19800103

Priority

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Abstract (en)

[origin: WO7901121A1] A blood cell-containing liquid suspension is separated into a cell-containing fraction and a cell-free fraction by filtration. The suspension, under pressure, is conducted in laminar flow across the surface of a microporous membrane (18, 118) along a flow path (12, 112) which is substantially parallel to the upstream side of the membrane (18, 118), the cell-containing fraction being recovered from the outlet end (16, 116) of the flow path (12, 112) and the cell-free fraction being recovered as filtrate (24, 124). The process is carried out under conditions providing a high filtration rate per area of membrane (18, 118) without causing damage to the blood cells. This is done by controlling the membrane wall shear rate of the suspension along the flow path (12, 112) so that such shear rate is sufficiently high to induce axial cell migration and inhibit interactions of the cells with the membrane surface (18, 118) at the requisite pressure conditions. Such shear rate is also maintained sufficiently low so as not to itself induce damage of the cells. Useful applications of the process include the separation of plasma from whole blood in a continuous flow plasma-pheresis procedure, and the removal of cryoprotective agents from previously frozen, thawed preparations of red blood cells, white blood cells, or platelets.

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