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(54) Title: METHOD OF CRYOPRESERVATION OF TISSUES OR ORGANS OTHER THAN A BLOOD VESSEL BY VITRIFICATION

(57) Abstract: A method for vitrification of a tissue or organ other than a blood vessel includes immersing the tissue or organ in increasing concentrations of cryoprotectant solution at a temperature greater than - 15 °C to a cryoprotectant concentration sufficient for vitrification; cooling the tissue or organ at an average rate of from 2.5-100 °C per minute to a temperature between - 80 °C and the glass transition temperature, and further cooling the tissue or organ at an average rate less than 30 °C per minute to a temperature below the glass transition temperature to vitrify the tissue or organ. After the vitrified tissue or organ has been stored, the tissue or organ may be removed from vitrification by warming the tissue or organ at an average rate of from 20-40 °C per minute to a temperature between - 80 °C and the glass transition temperature, further warming the tissue or organ at a rate of from 200-300 °C per minute to a temperature above - 75 °C, and reducing the concentration of the cryoprotectant.

WO 02/032225 A3