

Title (en)
HEMATOPOIETIC STEM CELLS AND METHODS OF TREATMENT OF NEOVASCULAR EYE DISEASES THEREWITH

Title (de)
HÄMOPOETISCHE STAMMZELLEN UND VERFAHREN ZUR BEHANDLUNG VON AUGENKRANKHEITEN MIT GEFÄSSNEUBILDUNG UNTER VERWENDUNG DIESER STAMMZELLEN

Title (fr)
CELLULES SOUCHES HEMATOPOIETIQUES ET METHODES DE TRAITEMENT DE MALADIES OCULAIRES NEOVASCULAIRES UTILISANT CES CELLULES SOUCHES

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Application
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Priority

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Abstract (en)
[origin: CA2524063A1] Isolated, mammalian, adult bone marrow-derived, lineage negative hematopoietic stem cell populations (Lin⁻ HSCs) contain endothelial progenitor cells (EPCs) capable of rescuing retinal blood vessels and neuronal networks in the eye. Preferably at least about 20% of the cells in the isolated Lin⁻ HSCs express the cell surface antigen CD31. The isolated Lin⁻ HSC populations are useful for treatment of ocular vascular diseases. In a preferred embodiment, the Lin⁻ HSCs are isolated by extracting bone marrow from an adult mammal; separating a plurality of monocytes from the bone marrow; labeling the monocytes with biotin-conjugated lineage panel antibodies to one or more lineage surface antigens; removing of monocytes that are positive for the lineage surface antigens from the plurality of monocytes, and recovering a Lin⁻ HSC population containing EPCs. Isolated Lin⁻ HSCs that have been transfected with therapeutically useful genes are also provided, and are useful for delivering genes to the eye for cell-based gene therapy. Methods of preparing isolated stem cell populations of the invention, and methods of treating ocular diseases and injury are also described.

IPC 8 full level
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