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(54) Title: ADENO ASSOCIATED VIRUS (AAV) MEDIATED LYSYL OXIDASE GENE THERAPY FOR KERATOCONUS AND THE CONSTRUCTS THEREOF

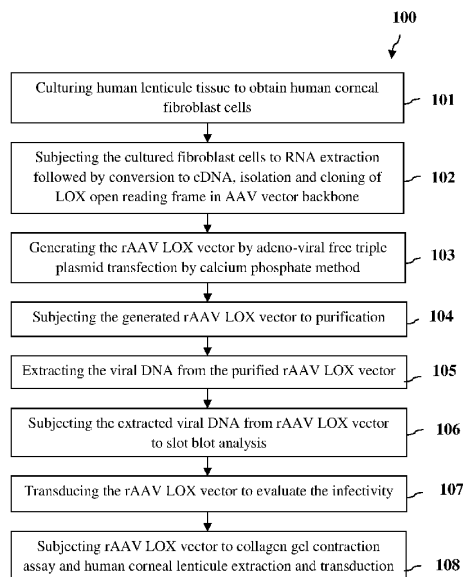


Figure 1

(57) Abstract: The present invention discloses adeno associated virus mediated Lysyl Oxidase gene constructs for Keratoconus, wherein the method for construction of recombinant AAV LOX vector comprising steps of culturing human corneal fibroblast cells, generating the rAAV LOX vector by transfection, purifying the generated rAAV LOX, extracting the viral DNA, transducing the rAAV LOX vector. The present invention discloses SEQ ID NO: 3 and SEQ ID NO: 7 of codon sequence and optimized codon sequence of LOX. The present invention enhances the expression of LOX, fibronectin and Connective Tissue Growth Factor and decreases the expression of Extracellular Matrix degrading protein Matrix Metalloprotease 9. The AAV mediated LOX gene constructs aids in improved corneal stiffness, collagen expression, collagen crosslinking. The AAV mediated LOX gene constructs are safe and biocompatible.

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