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(54) Title: GENE THERAPY FOR HEARING DISORDERS

(57) Abstract: The present disclosure provides polynucleotides containing regions of the TMPRSS3 promoter that are capable of expressing a transgene specifically in cochlear hair cells and sensory support cells. The present disclosure also provides nucleic acid vectors containing these promoters operably linked to polynucleotides encoding polypeptides. The present disclosure provides compositions and methods for inducing transgene expression specifically in inner ear cells such as hair cells and sensory support cells. The compositions described herein can be administered to a subject to treat disorders caused by dysfunction of inner ear cells, such as hearing loss or vestibular dysfunction.



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