

Novel Peptide Targets of Inner Ear

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Description: Researchers at Kansas University Medical Center (KUMC) have identified a series of peptides that bind bioavailable epitopes in the inner ear using phage display technique. The libraries of bacteria phage consisting of small peptides were screened against saccule and utricle cultures isolated from mice. After binding to the tissue in vitro, the phage were eluted and amplified in bacteria. The individual clones were characterized by DNA sequencing and queried against protein databases for homology to known inner ear proteins. The binding site of each clone was localized by immunofluorescent staining. Conjugation of drugs or gene therapy vectors to cell specific peptides may allow the treatment of individual cell types within the inner ear.

Stage of Development: Preliminary testing in animal models demonstrated generation of ear specific amino acid sequences and selective binding to specific cell populations within the inner ear.

Applications: Inner ear medicine; hearing loss; balance disorders

Patent: Patent pending

State of the Art: Currently, there are no suitable technologies based on inner ear peptide targets in the treatment of hearing and balance disorders. There are no FDA approved drugs for inner ear diseases.

Confidential Disclosure Agreement (CDA): KUMC is willing to enter into a CDA for the purpose of negotiating a License Agreement. If you are interested in learning details of this invention, please contact: Aswini K. Betha, Ph.D. (abetha@ku.edu Ph: 913-588-5713)

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The University of Kansas Medical Center Faculty
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