Researchers at the University of South Florida developed a new drug to prevent or slow the progression of Age-Related Hearing Loss (ARHL).

Permanent hearing loss or deafness affects about 15% of the people worldwide, and about 40 million in the US alone. ARHL is the #1 neurodegenerative disorder, #1 communication disorder, and one of the top 3 chronic medical conditions (along with arthritis & cardiovascular diseases) of our aged population. Presbycusis is a sensorineural hearing loss that gradually occurs in most individuals as they age, and it generally affects both ears equally.

The incidence of ARHL is increasing due to the “Baby Boomers” reaching old age, and cumulative effects of lifetime noise exposure, and widespread use of chemotherapeutic and antibiotic drugs, some of which have ototoxic side effects. There are currently no FDA-approved drugs on the market in the US, or anywhere in the world that prevent, treat or reverse permanent hearing loss or deafness.

Our researchers have developed a novel drug composition of FDA-approved compounds that achieve significant therapeutic effects for ARHL. The initial evidence supports the effectiveness of the new drug from in vitro experiments, and in vivo studies of aging mice. The new drug preserves hearing and modulates spiral ganglion neuron degeneration in the aging cochlea. This technology can be very effective in the treatment of ARHL.

ADVANTAGES:

- Utilizes natural and FDA-approved compounds
- Suitable for systemic applications
- Minimum side effects

The New Drug Upregulates the Expression and Activity of NKCC1 Ion Channels to Improve the Flow of Potassium Ions in the Cochlea to Help Hearing

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