

Press Release

Tinnitus research: Novel compound AC102 makes constant ear noise disappear in preclinical model

- AC102 regenerates connections between the inner ear and auditory nerve in a preclinical model and eliminates tinnitus
- Efficacy of AC102 on sudden hearing loss and tinnitus currently investigated in clinical trial



In 10-20% of tinnitus cases, the noise in the ear is so severe that it significantly impairs the quality of life of those affected. (Picture: AI-generated)



Erlangen/Berlin: The novel compound AC102 almost completely reversed tinnitus in a preclinical model after a single dose. At the same time, the damaged connections between the auditory nerve and inner ear sensory cells were restored. These findings were recently published in the prestigious International Journal of Molecular Sciences in a joint study conducted by Erlangen University Hospital and Berlin-based drug developer AudioCure. As there is currently no causal treatment for tinnitus, there is a high medical need.

In the current study, AC102 was administered to the middle ear of one experimental group after acoustic trauma, while a second group received a placebo. Although both groups initially showed signs of tinnitus, they nearly disappeared in the AC102 group after five weeks – in clear contrast to the placebo group. Additionally, the AC102 group showed significantly less loss of synaptic connections between the inner ear and the auditory nerve than the placebo group. This damage is considered to be a potential cause of tinnitus: “Our results suggest regeneration of inner ear structures that are critical for tinnitus and could be an important milestone and a glimmer of hope for a causal treatment of tinnitus,” says the study's first author, Dr. Konstantin Tziridis from Erlangen University Hospital.

About two-thirds of sudden hearing loss patients also suffer from tinnitus, which persists in around 30% of cases. Although 10-15% of adults experience tinnitus, no effective causal treatment exists. AC102 has the potential to become a new treatment option. In a preclinical acoustic trauma model, it almost completely reversed sudden hearing loss. Since tinnitus often accompanies sudden hearing loss, AudioCure is investigating AC102's potential efficacy also against tinnitus in its ongoing study. AudioCure's CEO, Dr. Reimar Schlingensiepen, emphasizes: "Constant ear noise caused by tinnitus can be even more stressful for many patients than the hearing loss itself. With AC102, we hope to have eventually an effective remedy for both conditions. This would be a great relief for patients and doctors who have no approved drug treatment available at present." AC102 has already been tested for safety and tolerability in a clinical study and is currently being examined in a Europe-wide Phase-2-study in patients for its effectiveness in sudden hearing loss and tinnitus.

About AudioCure

AudioCure is a pioneering clinical-stage pharmaceutical company based in Berlin, Germany. Specializing in hearing disorders with a high unmet medical need, AudioCure has developed a unique proprietary portfolio of small molecules which both protect and restore the delicate inner ear structures affected in otic conditions. After a Phase 1 trial demonstrated the safety and tolerability of their lead compound AC102 in healthy subjects, the compound is currently being investigated in patients with idiopathic SSNHL in a [Phase 2 clinical trial](#). Projects for treatments of tinnitus and to support residual hearing in cochlear implant patients are also in development.

**Contact**

AudioCure Pharma GmbH

Frauke Luers

Phone: +49 30 2218 397-0

E-Mail: pr@ac-clinical.com

Web: www.audiocure.com