

# 'Chemical earmuffs' could prevent hearing loss

*Biologists identify hearing-loss receptor in mice, use drug to prevent hearing damage*

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Once you start to lose your hearing, you can't get it back. But what if you could prevent hearing loss by blocking in advance the effects of loud noises?

That's a route a team of biologists at the University of Iowa and Washington University, St. Louis, say may be possible after the researchers identified a receptor that, when blocked, can prevent a common type of hearing loss.

Receptors are part of a suite of molecules on nerve cells in the ear that bridge the passage of sound and auditory information from inner-ear hair cells--the sound sensors--to the brain. The successful transmission of sound from hair cells to nerve cells, which occurs through a junction called a synapse, is integral to hearing in animals, including humans.

The researchers identified that some receptors involved in the hair-cell-to-nerve-cell transmission lack a protein called GluA2, and it is these receptors that are responsible for synaptopathy, or hearing loss caused by irreparable damage to the synapses.

The biologists employed a drug in mice that selectively blocked the GluA2-lacking receptors, and prevented the mice from experiencing synaptopathy when exposed to noise.

The approach was like outfitting the mice with chemical earmuffs that prevented them from sustaining hearing damage by blocking the breakdown that occurs in some synapses between inner ear hair cells and nerve cells when loud noises occur.

## Read and find the words meaning :

French	English	French	English
Cellule ciliée		Un médicament	
Cellule nerveuse		Empêcher....de....	
La perte auditive		Le bruit	
Un chercheur		équiper	
manquer		Des cache-oreilles	
subir		La rupture	

Highlight the most important elements of the document and try to introduce and explain it in your own words.