

Development of a Kv7.4 selective activator for the treatment of sensorineural hearing loss (noise-induced, ototoxic, and hereditary)

iN Therapeutics



OTHERS	Candidate
Product Type	Small Molecule (Kv7.4 selective activator)
Indication	Sensorineural hearing loss (noise-induced, ototoxic, and hereditary)
Target	Kv7.4 (K ⁺) channel
MoA(Mechanism of Action)	<p>Disruption of Kv7.4 channel function (excessive noise, ototoxic drug, Kv7.4 mutation) → Impaired K⁺ recycling → outer hair cell death → sensorineural hearing loss</p> <p>Kv7.4 selective activators protect against hearing loss by restoring K⁺ recycling in the inner ear</p>
Competitiveness	<p>Competitive drug development</p> <ul style="list-style-type: none"> - ACOU-085 (Acousia Tx): Non-selective Kv7.4 activator, Phase I, I.T. formulation iNT Candidate, First-in-class Kv7.4 selective activator - Improved Kv7 subtype selectivity - Improved Kv7.4 potency & efficacy - Reduced risk of CNS side effects - A profile that can be developed as an oral & I.T. formulation drug
Development Stage	Candidate
Route of Administration	Oral (P.O.) / Intratympanic injection (I.T.)